A Review of the 1983 Commercial Salmon Net Fisheries in the Central Coast Area of British Columbia (Areas 6, 7, 8, 9 and 10): Catch, Escapement and Management Strategies

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July 1984

Canadian Manuscript Report of Fisheries and Aquatic Sciences No. 1766

85-0301/

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Canadian Manuscript Report of
Fisheries and Aquatic Sciences 1766

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A REVIEW OF THE 1983 COMMERCIAL SALMON NET FISHERIES IN THE CENTRAL COAST AREA OF BRITISH COLUMBIA (AREAS 6, 7, 8, 9 AND 10): CATCH, ESCAPEMENT AND MANAGEMENT STRATEGIES

by

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Cat. No. Fs 97-4/ 1766 ISSN 0706-6473

Correct citation for this publication:

Peacock, D., R. Goruk and P.E. Sprout. 1984. A review of the 1983 commercial salmon net fisheries in the Central Coast area of British Columbia (Areas 6, 7, 8, 9 and 10): catch, escapement and management strategies. Can. MS Rep. Fish. Aquat. Sci.1766: 54 p.

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ABSTRACT

Peacock, D., R. Goruk and P.E. Sprout. 1984. A review of the 1983 commercial salmon net fisheries in the Central Coast area of British Columbia (Areas 6, 7, 8, 9 and 10): catch, escapement and management strategies. Can. MS Rep. Fish. Aquat. Sci.1766: 54 p.

The commercial net fishery on salmon runs returning to the Central Coast (Statistical Areas 6, 7, 8, 9 and 10) in 1983 was characterized by record high pink and chum catches in Areas 6 and 8 respectively. In contrast, chum returns to Area 6 were very low and the escapement was one of the lowest on record. Pink returns to Areas 8, mainly the Atnarko River, were also poor but escapements were generally good. Returns of all species to Area 7 were low resulting in limited fisheries. Sockeye returns to Area 9 were close to expected and only a one-day gillnet fishery was permitted. However, sockeye returns to Area 10 were above expectations requiring extensions in the fisheries.

This report reviews management actions and documents how management decisions were made for commercial fisheries in Areas 6 to 10, what information was used, how it was interpreted and what the results were in terms of catch and escapement.

Key words: Central Coast of B.C., 1983 commercial salmon net fisheries, management strategies

RÉSUMÉ

Peacock, D., R. Goruk and P.E. Sprout. 1984. A review of the 1983 commercial salmon net fisheries in the Central Coast area of British Columbia (Areas 6, 7, 8, 9 and 10): catch escapement and management strategies. Can. MS Rep. Fish. Aquat. Sci.1766: 54 p.

En 1983, des prises records de saumons rose et kéta, dans les zones 6 et 8 respectivement, ont caractérisé la pêche commerciale au filet du saumon remontant vers la côte centrale (zones statistiques 6,7,8,9 et 10). Par contre, les remontées de kétas dans la zone 6 ont été très peu élevées et les échappées ont compté parmi les plus faibles enregistrées. Dans la zone 8, principalement la rivière Atnarko, les remontées ont là aussi été faibles mais les échappées ont été généralement bonnes. À cause des maigres remontées de toutes les espèces dans la zone 7, la pêche a été restreinte. Les remontées de saumon rouge dans la zone 9 ont assez bien coincidé avec les prédictions et la pêche au filet maillant a été limitée à une journée. Dans la zone 10, les remontées ont toutefois été supérieures aux attentes, forçant ainsi une prolongation de la pêche.

Le présent rapport porte sur les mesures gestionnelles et explique comment les décisions ont été prises pour ce qui est de la pêche commerciale dans les zones 6 à 10, quelles données ont été utilisées, comment elles ont été interprétées et quels résultats ont été obtenus en termes de prises et de remontées.

Mots-clés: côte centrale de la C.-B., pêches commerciales du saumon au filet en 1983, stratégies gestionnelles

INTRODUCTION

Salmon fisheries in the Central Coast of British Columbia provide consistent and important catches to fishermen and in some areas are the only source of employment. However, there has been little or no documentation of fisheries management strategies and their effects on salmon catches and status.

Recent studies stressed the importance of management decision records and noted that their absence makes it difficult to appraise and evaluate the management results (Pearse 1982). Others have argued that learning from fisheries management actions is impeded without a record of strategies and may increase the risk that past incorrect management actions will be repeated (Anon. 1982). As well, the lack of a written record limits transfer of knowledge among fisheries managers and makes it difficult to benefit from past experience in a systematic manner.

The purpose of this report is to review strategies used to manage the commercial salmon net fisheries in the Central Coast area (Statistical Areas 6, 7, 8, 9 and 10; Fig. 1) in 1983. It documents how management decisions were made, what information was used to base the decisions on, how the information was interpreted, and what the results were in terms of catch and escapement.

MANAGEMENT PROCEDURES

This section provides a general view of the procedures followed by the North Coast Operations Branch of the Department of Fisheries and Oceans (DFO) in preparing pre-season fishing plans and undertaking in-season management.

Pre-season stock expectations and fishing plans are developed by the local fishery officer and area biologist and are reviewed with senior managers. The schedule of fishery openings and closures is based on the amount of surplus stock identified and on the anticipated fishing effort. Time and area limitations such as one-day fisheries with more limited boundaries are a common means of adjusting the anticipated catch to match the expected surplus.

Following the preparation of fishing expectations, fisheries managers meet with an industry advisory board (Central Coast Advisory Board) to discuss and finalize fishing expectations. The board consists of advisors from commercial and sports fishermen, and processors. The board advises fisheries management on subjects of common concern: stock strength, fishing plans, fisheries operations, biological programs, policy and direction.

Final fishing plans and stock expectations are published in the Pacific Region Commercial Fishing Guide (Append. 1-5). It is intended that the pre-season forecasts of stock strength and proposed fishing plans, as defined in the Commercial Fishing Guide, serve as a guideline only. These guidelines are subject to change after further consultation with fishermen, or if stocks return differently than expected.

During the season, fishery officers and biologists meet to evaluate each fishery. Catch, vessel distribution and their type and number are reviewed

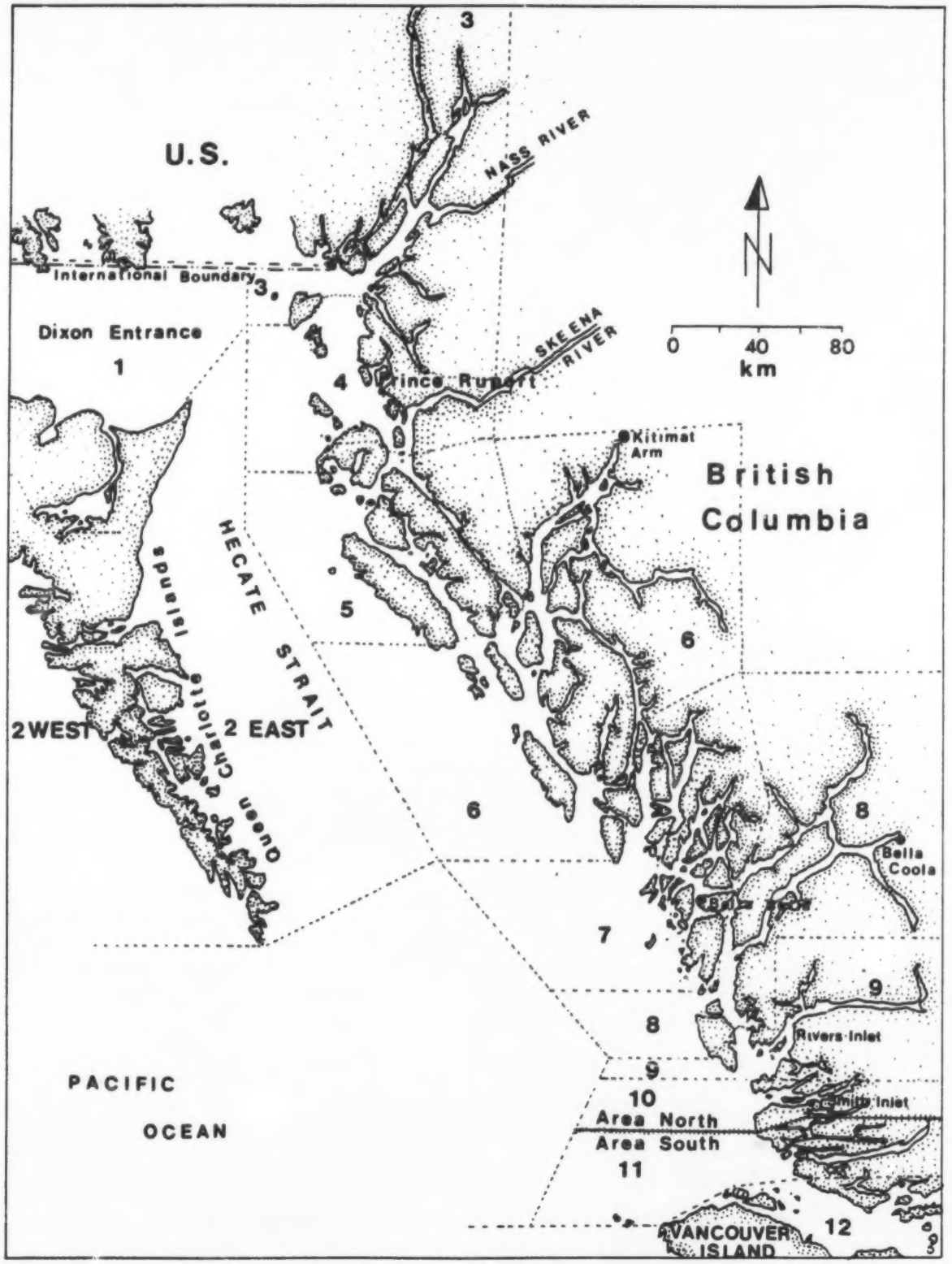

Fig.1. Location of Statistical Areas 6 to 10 in central British Columbia.

daily. These data, together with other information such as test fishery catches, charter boat catches and escapement estimates, if available, provide a picture of run size and timing. Based on this information, fishing plans are reviewed with the area manager and director prior to implementing.

DATA SOURCES

As discussed above, there are a number of data sources used to assess the in-season salmon runs. For the Central Coast area these are discussed in greater detail below.

1. Commercial catches

Information on commercial catches is obtained by fishery officers during fishing openings. Catches are "hailed" or verbally passed to fishery officers by fishermen who for the most part usually estimate their catches. In many cases, particularly with gillnets, catches may be delivered to other vessels (packers) in the fishing area. The officers may collect catch information from the packers; in these instances an actual total weight and count are available.

Although methods vary, fishery officers obtain catches from a proportion of the fleet and then expand this, based on aerial or patrol vessel gear counts, to arrive at a total catch for all gear. Usually this requires that the fishing area be subdivided into several smaller areas determined by factors such as species mix in the catch and gear type. Each area would be sampled separately and the results expanded accordingly to arrive at a total catch. In extended fisheries, the fishery officer may sample a large proportion of the fleet and in many instances will obtain catch estimates for virtually all of the vessels.

Catches are one of the most important sources of information in managing the Central Coast salmon stocks. In particular, the comparison of the current year fishing performance to historical fishing success is the major means of assessing in-season run strength. However, this approach assumes that commercial catch rates reflect stock abundance, and experience has shown that this is not always true. Accordingly, other run strength indicators are also used.

2. Echo sounding

In Area 9, an echo sounding program provides a daily estimate of sockeye abundance. This program is the primary means by which the commercial fishery in this area is managed, particularly in years of low stock abundance when the commercial fishery which normally provides an indication of stock abundance is closed. During July to August, the DFO vessel "Walker Rock", equipped with a dry paper Furuno Sounder, sounds nightly a standard grid pattern in the head of Rivers Inlet (Fig. 1). Individual "fish tracings" are counted and extrapolated for the entire area holding the fish, resulting in an estimate of total sockeye abundance.

3. Adult fences

In Area 10, a fence across Docee River provides a count of sockeye entering Long Lake. This is the primary means by which the commercial gillnet fishery in Smith Inlet is regulated to provide for escapement objectives. The DFO staffs the counting facility, and during July 1 to August 10 sockeye passing through the fence are counted.

4. Indian Food Fisheries

Indian Food Fisheries are conducted in various locations throughout the Central Coast. The drift gillnet fishery on the lower Bella Coola River is an example of an Indian Food Fishery used to assess salmon run strength.

5. Charter vessels

In 1983, two seine vessels were chartered to tag and release sockeye in Smith Inlet (Fig. 1). Although the primary purpose of this program was to evaluate the timing of Smith Inlet sockeye past the Docee River fence, the catches of the charter vessels were also used to assess stock strength.

6. Escapement

Another source of information used to manage commercial fisheries is escapement. At the start of the fishing season, the salmon run has not yet entered sanctuary areas (holding areas usually adjacent to spawning streams but not open to commercial fishing) or spawning streams, and thus no escapement information is available. However, as the season progresses and fish are observed beyond the limits of the commercial fishery, this information becomes very important. Escapement to date is compared with previous years' escapements in order to evaluate timing and run size and thereby assess fishing plans.

Catch and escapement accounts of all five species of Pacific salmon: sockeye (Oncorhynchus nerka), coho (O. kisutch), pink (O. gorbuscha), chum (O. keta) and chinook (O.tshawytscha) are included in this report. All fishing period dates commence at a time of 1800 hours unless otherwise indicated. Catches made during the season were analized by comparing present catch data with historical fishing success. However, in this report catches are generally simply referred to as low or high, and good or poor. Additionally, each Statistical fishing Area is subdivided into management units (M.U.) with specific boundaries, and it is these smaller areas which are actually opened and closed during the season in order to manage the fisheries.

AREA 6

1983 PRE-SEASON STOCK EXPECTATIONS

The 1983 stock expectations and fishing plans for Area 6 are described in detail in Appendix 1 and are reviewed briefly below.

Sockeye

Stock levels have declined from a 10-year average escapement of over 50,000 during the 1950's and 1960's to 20,000 since 1970. No target fisheries on sockeye were planned for 1983. Catches are incidental to other fisheries, and may include a considerable percentage of passing stocks.

Coho

Escapement levels averaged between 80,000 and 90,000 prior to 1970, but by early 1980's have declined to half that level. No target net fisheries are conducted on coho; catches are incidental during other fisheries.

Pink (odd-year)

Pink odd-year escapement for 1951 to 1959 averaged 240,000. The averages doubled to over 500,000 during the 1960's but declined again since 1970 to the 300,000 level. The expectations were for an above average odd-year return and a limited fishery.

Chum

Chum stock levels have been very erratic. An increase from the 1950 to 1959 mean of 160,000 to 225,000 during 1960 to 1969, was followed by severe declines. Stocks returning early in the season (July) are in particularly poor condition. The 1983 expectations were for moderate returns. Better than expected pink returns in 1981 indicated better than expected chum returns in 1983.

Chinook

Chinook escapements have declined from a mean of 20,000 during 1960 to 1969 to a mean of 6,400 since 1975. Chinook net catches are incidental during other fisheries.

1983 PRE-SEASON FISHING PATTERN, AREA 6

The fishing plan was designed to harvest the expected surplus of pink salmon returning to the later timing streams and minimize catches to the earlier timing streams (i.e. Kitimat-Gardner area stocks; Fig. 2) which had depressed stocks.

Net fisheries were scheduled to begin on July 10 in the Whale Channel - Squally Channel - Campania Sound area (Fig. 2). It was proposed to open for one day to assess stock strength. Laredo Channel was not to be opened until July 31 in order to conserve depressed early chum stocks.

1983 WEEKLY FISHING SUMMARY, AREA 6

Table 1 summarizes weekly in-season fishery management and its rationale. Table 2 presents Area 6 weekly commercial net catches by gear and species. Figure 2 shows Area 6 management units.

July 10-July 17

Management units 6-5, 6-6, 6-9, 6-10 and 6-26 were opened for 24 hours for gillnets and seines to assess pink and chum strength. Seine catch averages were low for both pink and chum. Gillnet catch averages were also low for chum. Gillnets were using larger mesh nets in order to select for chum salmon and thus pink catches were incidental and were not considered to reflect pink abundance. Based on low catches the fishery was closed as scheduled.

July 17-24

A 24-hour fishery was scheduled for both seines and gillnets in the same areas as the previous week. Seine pink catch averages increased but chum catches remained poor for both gears. Based on apparent high pink abundance, the fishery was extended for 24 hours, although at this point it was not clear if the pink run was large or the timing early. On the second day, the seine catch of pink salmon remained good while chum catches were still low. Area 6 was closed after the second day, coinciding with closures in Areas 5 and 8.

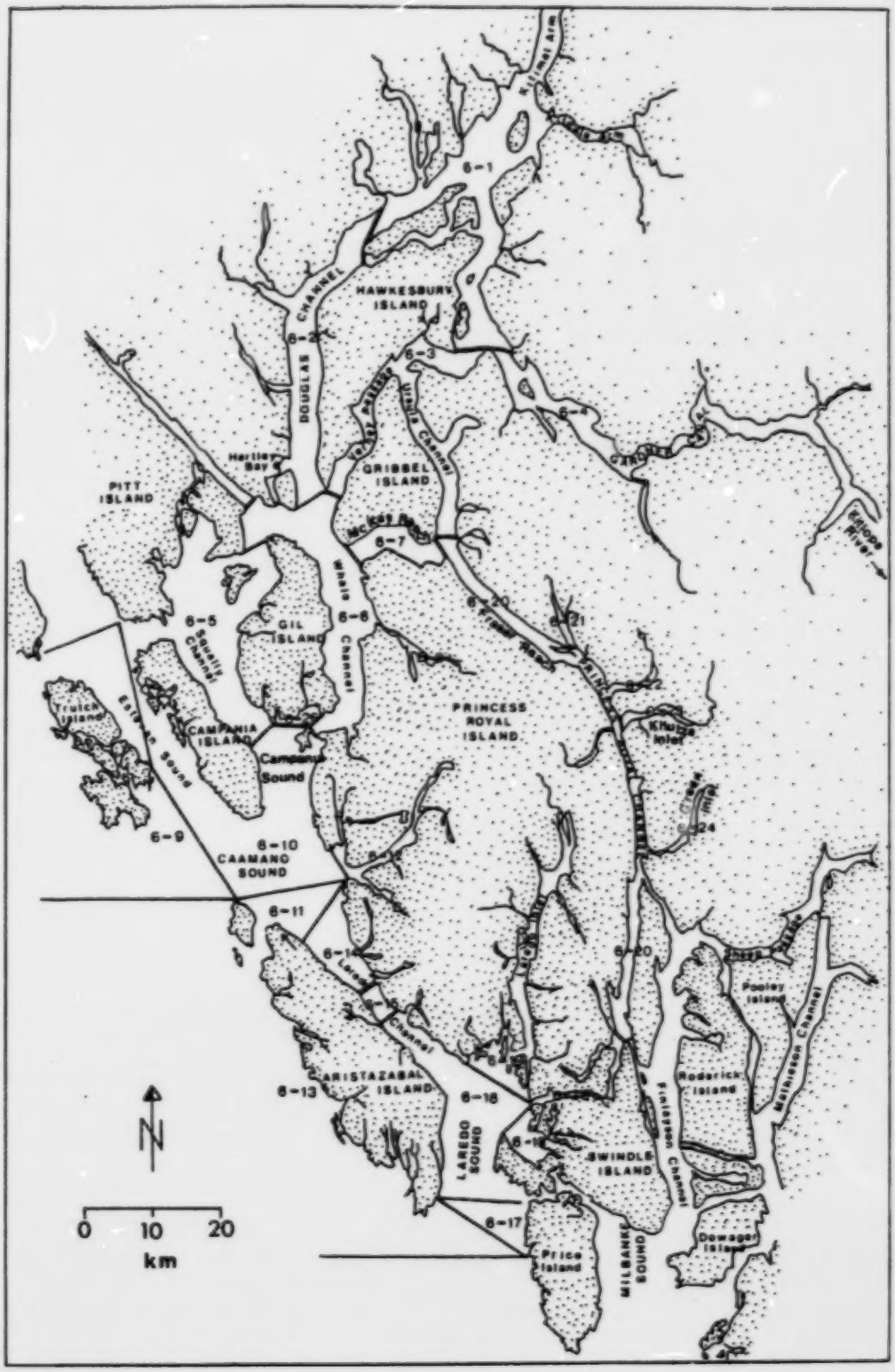

Fig.2. Location of Area 6 management units,B.C.

Table 1. Weekly net fishing season: pre-season plans, in-season management and rationale for management, Area 6, 1983.[a]

Date	Pre-season Fishing Plans	In-season Management	Rationale for In-season Management
July 10 - 17	Open to nets 1 day.	Opened to nets 1 day.	- fishery opened to assess pink and chum stock strength - fishery closed due to low pink and chum catches
July 17 - 24	Open to nets 1 day.	Opened to nets 1 day; extended 1 day.	- fishery extended due to apparent high pink abundance - fishery closed due to low chum catches and to coincide with closures in Areas 5 and 8
July 24 - 31	Open to nets 1 day.	Opened to nets 1 day; extended 1 day.	- fishery extended due to continued good pink catches and good early pink escapements
July 31 - Aug. 7	Open to nets 1 day.	Opened to nets 1 day; extended 1 day.	- fishery extended due to continued good pink catches and promising escapements to date
Aug. 7 - 14	Open to nets 1 day; dependant on stock strength indications from previous weeks.	Opened to nets 2 days; extended 1 day.	- fishery extended due to continued good pink catches and early escapements - fishery closed due to decline in pink catches
Aug. 14 - 21	As above.	Opened to nets 2 days; extended 2 days.	- fishery extended due to high pink catches - fishery closed due to concerns over pink escapement
Aug. 21 - 28	As above.	Opened to nets; 1 day; extended 1 day.	- fishery extended in selected areas based on pink seine catches - fishery closed due to declining pink catches and concern over some pink and most chum escapements - fishery terminated for the season

[a]For details see text and Appendix 1.

Table 2. Daily gillnet and seine catches by species and the number of gear, Area 6, 1983.[a]

	GILLNET						SEINE					
Date	No. Gear	Sockeye	Coho	Pink	Chum	Chinook	No gear	Sockeye	Coho	Pink	Chum	Chinook
July 10/11	30	1020	240	1470	300	15	77	5236	5698	33726	4697	231
Week total	-	1020	240	1470	300	15	-	5236	5698	33726	4697	231
July 17/18	4	270	23	465	65	4	63	4427	2203	69161	2617	247
18/19	4	50	3	268	20	0	74	13933	6933	231066	8289	1065
Week total	-	320	26	733	85	4	-	18360	9136	300227	10906	1312
July 24/25	11	427	173	1717	317	12	70	1609	1375	72341	2236	124
25/26	13	417	286	1899	368	2	65	9942	8487	312144	12369	334
Week total	-	844	459	3616	685	14	-	11551	9862	384485	14605	458
July 31/Aug. 1	26	668	377	3502	702	9	64	3146	4134	187217	2880	93
Aug. 1/2	31	988	628	4161	658	15	67	6759	11660	325303	9139	654
Week total	-	1656	1005	7663	1360	24	-	9905	15794	512520	12019	747
August 7/8	28	182	195	1185	433	13	55	1141	2620	104465	2075	69
8/9	28	208	178	2219	377	5	55	1632	2627	158602	1946	47
9/10	25	584	551	2999	1147	8	55	5675	10958	413966	8802	338
Week total	-	974	924	6403	1957	26	-	8448	16205	677033	12823	454
August 14/15	40	114	425	2880	869	5	82	765	3018	260575	1762	75
15/16	40	113	242	2752	770	5	83	783	2611	153171	2115	75
16/17	40	288	695	3516	1764	26	65	968	3954	146169	1684	145
17/18	38	454	1117	7908	2028	10	65	7266	16629	766854	11712	1849
Week total	-	969	2479	17101	5431	46	-	9782	26212	1326769	17273	2144
August 21/22	35	69	393	2244	588	39	72	445	2191	88919	1030	289
22/23	30	56	462	2777	617	70	53	1264	4335	243251	3579	345
Week total	-	125	855	5021	1205	109	-	1709	6526	332170	4609	634
Total for Year	-	5908	5988	42007	11023	238	-	64991	89433	3566930	76932	5980

[a]Where two or more consecutive days have been fished, the last day's catch is often the largest in a series since it includes corrections for any underestimates made by fishery officers in the previous days' catch approximations.

July 24-31

Based on pink abundance, a 24-hour fishery was scheduled for both seines and gillnets in the same areas as the previous week. In addition, McKay Reach (M.U. 6-7) was opened to harvest what appeared to be a good run of pink salmon moving into Fraser Reach possibly bound for the Green Inlet-Khutze Inlet area (Fig. 2). Seine catches for pink salmon were similar to the previous week while chum catches showed no improvement. With pink catches holding up and early pink escapements encouraging, the decision was made to extend the fishery for 24 hours. No further extensions were granted and the fishery closed after the second day.

July 31-August 7

A 24-hour fishery was again scheduled and, in addition to areas opened the previous week, Laredo Channel (M.U.'s 6-14, 6-16, 6-17 and 6-18) and the west coast of Aristazabal Island (M.U. 6-13) were also opened. These areas were closed in July to protect depressed early chum stocks bound for systems in Kitimat-Gardner areas. The area was opened to assess pink abundance after it was thought the early chum had passed.

Pink catches remained good for seines while chum catches continued to be low for the both gear types. The combination of good pink catches and promising escapements to date to various streams led to the decision to extend the fishery for 24 hours. However, Laredo Channel had poor pink catches and this area was closed after the first 24 hours. Although pink catches remained high on the second day, no further extensions were granted.

August 7-14

A 48-hour fishery was scheduled with openings in M.U.'s 6-5, 6-6, 6-7, 6-10 and 6-26. Management unit 6-9 opened in previous weeks was closed to protect chinook salmon. Apparently, in previous weeks when catches had declined in M.U.'s 6-5, 6-6, 6-7 and 6-26, some vessels had moved to M.U. 6-9 where catches of chinook comprised a much higher percentage of the harvest than was observed in the inside fishing areas. Because of the coast-wide concern over depressed chinook stocks, the Department attempted to avoid fishing in areas where incidental catches of chinook occurred.

Pink catches for seines were high in the first 24 hours but dropped by the evening of the second day in inside areas (M.U.'s 6-6, 6-7) while catches in M.U.'s 6-10 and 6-26 held up. Based on pink catches and good early escapement, a 24-hour extension was implemented. Catches of pink salmon declined on the third day and the fishery was closed.

August 14-21

The fishery was opened for gillnets and seines for 48 hours in the same areas as the previous week and,based on high pink catches, was extended for 48 hours for both gear types in the same areas. Pink catch averages for seines were generally high throughout the four-day fishery in M.U.'s 6-6 and 6-7 with bright fish being caught. However, catches fell off in Whale Channel and McKay Reach after the second day and an increasing proportion of the fish were dark. Chum catches were low for both gears. Pink escapements which initially appeared promising, were not increasing as expected and, as a result, the fishery was closed after the fourth day.

August 21-28

A 24-hour fishery was scheduled in M.U.'s 6-5, 6-6 and 6-10, in Laredo Channel (M.U.'s 6-11, 6-14, 6-16, 6-17 and 6-18) and the west coast of Aristazabal Island (M.U. 6-13). Management units 6-7 and 6-26 remained closed to provide increased protection for chum and pink stocks which appeared to be holding in these areas. Based on seine pink catches, the fishery in M.U.'s 6-5 and 6-10 was extended for 24 hours while all other areas were closed as scheduled. Pink catches declined on the second day and the boats began leaving the area. This, coupled with concerns over some pink and most chum escapements, resulted in the area being closed for the balance of year.

Table 3 shows the annual commercial salmon net catches by species and gear in Area 6 for the period 1951 to 1983. Compared to the preceeding five-year catch averages, the 1983 net catches were lower for sockeye, chum and chinook but higher for coho and pink salmon. In particular, the 3.6 million pink net catch in 1983 was the highest since 1972. Seines captured 98% of the 1983 net catch in Area 6.

ESCAPEMENTS, AREA 6

The annual Area 6 salmon escapements by species for the period 1947 to 1983 are presented in Table 4. The 1983 escapements were generally disappointing. The pink escapement of 500,000 was above both the brood year escapement of 354,260 and the odd-year average of 301,294 for the period 1973-1981 but was well below the optimum of 1,000,000. Kitimat Arm continued to show weak pink escapements.

The chum return was one of the poorest on record showing an escapement of 43,000 compared with an average of 135,030 during the period 1973-1982. However, even if no fishery occurred in Area 6 in 1983, the chum escapement would have been less than the recent year average. Escapements of other species were similar to or below the recent year averages (1973-1982): chinook escapement was 7,425 compared to 7,878; sockeye escapement was 22,000 with the majority of fish entering the Kitlope River, compared to 22,841; and coho escapement was 35,000 compared to 41,624.

REVIEW, AREA 6

In 1983, the fishery in Area 6 was based on the abundance of pink salmon. Catches of pink salmon, although low in the first week of the fishery, increased by the second opening and remained high until the second week in August. Catches of other species were mainly incidental to pink catches, although in the case of chum several actions had been taken to reduce interceptions (e.g. closure of Milbanke Sound and Laredo Channel, a delay in the opening date of the fishery and special in-season area closures).

A very high percentage (67%) of the total chum return in Area 6 was caught. However, chum spawning streams on Aristazabal Island and those entering Laredo Channel received escapements similar to or above brood year returns and this is believed to be due to the closures in Laredo Channel and Milbanke Sound. Given the present manner of fishing in Area 6, it seems that in years of high pink abundance, overharvesting of chum salmon is unavoidable. However, harvesting impacts may be minimized as was indicated by management actions taken in Laredo Channel and Milbanke Sound.

Table 3. Annual commercial salmon net catches by species and gear, Area 6, 1951 - 1983.[a]

	SOCKEYE				COHO				PINK				CHUM				CHINOOK			
Year	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total
1951	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	433112	2097	3768	5429	11294
1952	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	92834	4292	4770	2062	11124
1953	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	217729	2130	923	3950	7003
1954	44686	42997	0	87683	23520	42824	2003	68347	145250	434626	448	580324	98056	210863	21	308940	1496	2014	1341	4851
1955	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	43728	3174	1200	2458	6832
1956	16541	27015	0	43556	33369	77230	6656	117255	230711	1500857	635	1732203	47149	66925	13	114087	1427	1547	2624	5598
1957	15491	13534	0	29025	45601	18800	8473	72874	71453	103860	561	175874	196659	54545	50	251254	1366	426	2974	4766
1958	34120	90619	0	124739	34626	50176	13034	97836	198427	879855	858	1079140	101106	212213	11	313330	2944	2522	6295	11761
1959	23351	8462	0	31813	27095	8871	21623	57589	62312	73834	6461	142607	15270	8845	6	24121	1627	1162	5901	8690
1960	29421	26818	0	56239	37620	33593	30545	101758	236425	559754	6530	802709	64650	59922	31	124603	3085	2247	6497	11829
1961	39925	32137	0	72062	46896	44923	27762	119581	262485	779883	26215	1068583	59301	57978	181	117460	2408	1684	7571	11663
1962	47334	38860	36	86230	59785	48102	27556	135443	907635	2897714	108550	3913899	89212	95303	510	185025	6479	13222	10653	30354
1963	33151	26725	56	59932	112821	64860	57582	235263	345369	1159263	32224	1536856	101841	59026	730	161597	18311	4334	20250	42895
1964	83294	51334	551	135179	83508	59975	107914	251397	403713	1025445	174314	1603472	121197	98532	4031	223760	7133	5858	27524	40515
1965	50972	27809	541	79322	130803	89796	74167	294766	345198	883954	31579	1260731	91206	68540	2354	162100	11035	12318	24317	47670
1966	36296	35326	161	71783	74235	57683	49691	191609	781082	2564971	194430	3540483	131437	113491	616	245544	7536	7005	25513	40054
1967	32454	29478	72	62004	19954	5967	20145	46066	30554	67192	5901	103647	45285	27059	74	72418	2609	6871	20366	29846
1968	34231	39566	586	74383	76912	70596	60096	207604	201546	2856706	338637	3396889	192902	159743	1055	353700	3832	8964	17070	29866
1969	19412	14016	30	34058	17402	9094	16014	42510	11286	23139	1130	35555	44801	15050	27	59878	1396	6007	18138	25541
1970	44872	46999	846	32717	81752	62428	47540	191720	655073	2136079	445841	3236993	172577	99341	4603	276521	8571	13208	15803	37582
1971	14675	17765	35	32475	16952	14749	21170	52871	25369	214986	1956	242311	45711	20848	182	66741	1518	16570	16649	34737
1972	31925	69650	452	102027	68810	92562	71920	233292	145018	4943906	523474	5612398	181015	290844	1826	473685	12709	22783	31036	66528
1973	16665	50065	309	67039	17494	22561	53814	93869	30178	370495	16855	417528	64073	98546	472	163091	1865	5378	20253	27496
1974	21405	35560	283	57248	33588	32432	39769	105789	53455	472294	47200	572949	105465	61057	137	166659	3216	10473	25787	39476
1975	11516	9432	156	21104	11049	2350	9140	22539	13106	26740	1236	41082	11936	4815	123	16874	2110	7408	22671	32189
1976	4633	9899	130	14662	11600	22542	27371	61513	70021	417063	11352	498436	6172	7134	636	13942	391	4085	14715	19191
1977	7042	26080	92	33214	2424	9482	16473	28379	66706	337432	5855	409993	10108	45222	109	55439	429	3055	14044	17528
1978	9853	45976	1212	57041	15184	58422	30869	104475	79029	2654810	18778	2752617	73009	151146	1180	225335	2075	17947	17888	37910
1979	8640	77952	198	86790	3031	33265	19582	55878	21271	702984	8228	732483	12055	76550	436	89041	750	15932	11823	28505
1980	10494	61277	653	72424	14054	67477	26124	107655	105992	2696939	22230	2825161	73299	123693	798	197790	1045	12959	13806	27810
1981	22672	118554	904	142130	8590	33776	17369	59735	109592	1140908	24290	1274790	26513	69631	397	96541	579	6674	9863	17116
1982	7869	69217	983	78069	14045	36673	15248	65966	16222	564548	4726	585496	57482	84793	378	142653	510	16030	9763	26303
1983	5908	64991	577	71476	5988	89433	44176	139595	42007	3566930	18522	3627459	11023	76932	619	88574	238	5980	14916	21134
Mean 1978-82	11906	74595	790	87291	10981	45923	21888	78742	66421	1552038	15650	1634109	48472	101163	638	150272	992	13908	12629	27529

[a]From B.C. Catch Statistics; 1951, 1952, 1953 and 1955 chinook catches from Area Histories.

Table 4. Annual spawning escapements for sockeye, coho, pink, chum and chinook, Area 6, 1947-1983.[a]

Year	Sockeye	Coho	Pink	Chum	Chinook
1947	120,075	227,650	320,375	660,250	5,950
1948	400	172,650	638,475	16,550	3,500
1949	75,225	157,350	634,650	382,200	13,900
1950	117,500	62,175	188,800	175,925	16,850
1951	86,675	155,725	630,125	420,265	12,500
1952	N/A[b]	475	452,725	2,675	N/A
1953	50,100	94,250	118,525	218,975	14,500
1954	65,375	106,700	189,625	171,275	15,900
1955	26,900	100,025	146,150	85,200	14,375
1956	23,150	162,925	488,850	77,425	7,175
1957	47,006	97,950	61,700	156,075	3,100
1958	37,978	60,575	394,400	234,525	12,150
1959	25,800	50,625	240,750	32,625	4,100
1960	32,400	36,875	552,250	169,600	6,875
1961	25,050	60,000	669,650	72,800	10,050
1962	94,825	89,600	2,770,550	327,925	25,525
1963	199,600	122,150	1,329,050	120,100	29,950
1964	58,850	132,184	1,499,575	279,200	18,775
1965	27,800	111,500	506,775	117,025	14,325
1966	38,490	90,530	1,103,600	369,325	36,500
1967	57,125	60,050	107,600	340,050	24,250
1968	44,100	85,950	1,139,100	382,427	17,450
1969	14,100	28,385	111,340	76,738	12,162
1970	21,650	57,200	749,450	102,350	13,825
1971	25,250	55,875	350,725	86,125	23,325
1972	8,525	66,325	1,013,150	269,775	13,260
1973	44,800	33,575	229,815	274,075	15,555
1974	32,250	45,345	387,925	258,595	12,125
1975	20,320	44,755	306,593	79,336	5,035
1976	12,800	52,168	977,238	67,030	7,004
1977	23,773	32,260	142,080	85,435	3,833
1978	12,275	39,295	817,005	190,220	7,160
1979	15,075	49,745	473,720	87,415	6,510
1980	19,997	34,450	680,714	82,432	4,905
1981	16,920	38,260	354,260	91,725	5,552
1982	30,200	46,390	581,195	134,038	11,100
1983	22,000	35,000	500,000	43,000	7,425
Mean 1973-1982	22,841	41,624	-	135,030	7,878
Mean 1973-1981 (odd-year cycle)	-	-	301,294	-	-

[a]These escapements are presently being revised from historical records. Some changes have been made and more are expected. The above 10-year averages may differ from those published in the 1983 expectations.

[b]Not available.

An additional chum conservation measure which will be instituted in 1984, is to delay the start of the fishery until late July. The proportion of chum caught incidentally during the pink seine fishery decreases with each week in July, so the intention is to harvest pink salmon later in the season when the proportion of chum is lower. In addition, this management action will allow the strongest conservation measures to be directed at the early chum runs which are in the worst condition.

It was apparent in retrospect that the 1983 fishing times could have been more restricted. The management actions taken did not produce the anticipated high escapement of pinks. The pink exploitation rate was exceptionally high and raises the question of whether this was a special circumstance pertaining only to Area 6 in 1983, or whether it more generally reflected the changing catching power of the seine fleet. If the latter is the case, fishing times must be reduced accordingly to counteract the apparent increase in the proportion of fish than can be captured per unit of effort.

AREA 7

1983 PRE-SEASON STOCK EXPECTATIONS

The 1983 stock expectations and fishing plans for Area 7 are described in detail in Appendix 2 and are reviewed briefly below.

Sockeye

Annual sockeye escapements have averaged 5,613 since 1975, or approximately half the 1950 to 1975 average escapement. The return of local sockeye stocks was expected to be below average. No target fisheries are held on local sockeye stocks; catches are incidental during fisheries targeting on other species. Sockeye catches are comprised mainly of fish destined for other areas.

Coho

Coho escapements have steadily declined from an annual average of 20,365 during 1950 to 1959, to 2,257 for 1980 to 1982. The return of local coho stocks was expected to be very poor. Coho catches are incidental during fisheries targeting on other species.

Pink (odd-year)

Pink odd-year escapements have remained at adequate levels of between 250,000 and 300,000 for the past 30 years. Brood year escapement was good and returns were expected to be above average.

Chum

Chum escapements have shown wide fluctuations over the past 30 years but have been consistently low since 1975, generally under 200,000 fish. Brood year escapement was half the desired level and consequently, a poor return was expected. No chum target fisheries were planned.

Chinook

There are no chinook spawners in Area 7. Catches are incidental during fisheries targeting on other species.

1983 PRE-SEASON FISHING PATTERN, AREA 7

The net fishing plan was designed to harvest pink salmon which were expected to return at slightly above average levels. Catches of other species would be incidental to the pink harvest.

The fishery was scheduled to open on July 10 for 24 hours in the inside portions of Area 7 (i.e. inner Milbanke Sound and lower Finlayson and Seaforth Channels). Additional openings would be based on the results of the early fisheries. Outer Milbanke Sound was not scheduled to open until July 31.

1983 WEEKLY FISHING SUMMARY, AREA 7

Table 5 summarizes weekly in-season fishery management and its rationale. Table 6 presents Area 7 weekly commercial net catches by gear and species. Figure 3 shows Area 7 management units.

July 10-17

Management units 7-3, 7-4 and 7-12 were opened for 24 hours on July 10 for gillnets and seines to assess pink and chum stock strength. Catches were very poor and the area was closed as scheduled.

July 17-24

The same areas as in the previous week were reopened to seines and gillnets to provide a further indication of pink and chum run sizes. Again, catches were poor and the area was closed after 24 hours.

July 24-31

The same areas as in the previous week were reopened to seines and gillnets for 24 hours. Catches continued to be low and the area was closed as scheduled.

July 31-August 7

Milbanke Sound (M.U. 7-2) and Finlayson Channel (M.U. 7-5) were scheduled to open this week. However, due to the concerns over chum and pink abundance it was decided to open only M.U.'s 7-4 and 7-12 to seines and gillnets for 24 hours. By decreasing the fishing area, it was hoped to reduce the incentive for other fishing vessels to enter Area 7 to fish. In addition to reducing the open area, a minimum gillnet mesh size of 144 mm was imposed. This was designed to limit the interceptions of pink salmon by gillnets and encourage targeting on chum salmon. In previous fisheries, pink catches had been particularly poor for both gear types suggesting a low run size. Chum stocks, although not strong, appeared more promising than pink stocks but, based on past timing, it was still early to assess Area 7 chum. The above fishing plan was designed to discourage a large fleet from entering the fishery but still allow a few local vessels the opportunity to fish.

The fleet was similar in size to that observed in previous fisheries and was largely composed of local vessels. Catches were once again low for both gear types and the fishery was closed as scheduled after 24 hours.

Table 5. Weekly net fishing season: pre-season plans, in-season management and rationale for management, Area 7, 1983.[a]

Date	Pre-season Fishing Plans	In-season Management	Rationale for In-season Management
July 10 - 17	Open to nets 1 day.	Opened to nets 1 day.	- fishery opened to assess pink and chum stock strength - fishery closed due to low catches
July 17 - 24	Open to nets 1 day.	Opened to nets 1 day.	- fishery opened to assess pink and chum stock strength - fishery closed due to low catches
July 24 - 31	Open to nets 1 day.	Opened to nets 1 day.	- fishery opened to assess pink and chum stock strength - fishery closed due to low catches
July 31 - Aug. 7	Dependant on stock strength indications from previous weeks.	Opened to nets 1 day.	- fishing area greatly reduced to allow some fishing by local vessels but discourage entry in Area 7 by additional vessels - a minimum gillnet mesh size of 144 mm imposed to limit pink interceptions and favour chum catches; fishery closed due to low catches
Aug. 7 - 21	As above.	Closed.	- fishery remained closed due to poor catches to date and poor escapement indications
Aug. 21 - 28	As above.	Opened to nets 1 day.	- fishing area restricted - fishery closed due to low catches
Aug. 28 - Sep. 18	As above.	Closed.	- fishery remained closed due to low escapements and poor catches in previous fisheries
Sep. 18 - 25	As above.	Opened to nets for part of 1 day.	- fishery closed due to low catches of pink and chum - fishery terminated for the season

[a]For details see text and Appendix 2.

Table 6. Daily gillnet and seine catches by species and the number of gear, Area 7, 1983.

		GILLNET						SEINE					
Date	Area	No. Gear	Sockeye	Coho	Pink	Chum	Chinook	No. Gear	Sockeye	Coho	Pink	Chum	Chinook
July 10/11													
Day Total[a]		-	611	215	183	975	15	57-41[b]	8,974	5,227	8,071	2,718	539
Week Total		-	611	215	183	975	15	-	8,974	5,227	8,071	2,718	539
July 17/18	Milbanke	12	327	364	275	259	46	16	1,280	736	5,808	960	192
	Finlayson	0	0	0	0	0	0	0	0	0	0	0	0
	Seaforth[c]	0	10	2	2	3	0	3	90	80	143	137	17
Day Total		12	337	366	277	262	46	19	1,370	816	5,951	1,097	209
Week Total		-	337	366	277	262	46	-	1,370	816	5,951	1,097	209
July 24/25	Milbanke	7	273	147	308	546	0	1	190	170	1,020	340	0
	Finlayson	0	0	0	0	0	0	0	0	0	0	0	0
	Seaforth	0	0	0	0	0	0	9	2,087	1,019	7,404	3,281	115
Day Total		7	273	147	308	546	0	10	2,277	1,189	8,424	3,621	115
Week Total		-	273	147	308	546	0	-	2,277	1,189	8,424	3,621	115
July 31/Aug. 1	Milbanke	C L O S E D											
	Finlayson	7	25	81	49	460	4	3	6	125	2,600	345	5
	Seaforth	7	15	15	23	600	4	10	391	415	7,764	1,092	281
Day Total		14	40	96	72	1,060	8	13	397	540	10,364	1,437	286
Week Total		-	40	96	72	1,060	8	-	397	540	10,364	1,437	286
August 7/21		C L O S E D											
August 21/22	Milbanke	16	2	162	82	764	15	4	7	96	3,154	713	5
	Finlayson	6	1	75	34	212	4	0	0	0	0	0	0
	Seaforth	12	4	119	47	620	14	5	45	245	4,630	1,920	8
Day Total		34	7	356	163	1,596	33	9	52	341	7,784	2,633	13
Week Total		-	7	356	163	1,596	33	-	52	341	7,784	2,633	13
August 28 - September 18		C L O S E D											
Sep. 18/19	Milbanke	0	0	0	0	0	0	0	0	0	0	0	0
	Finlayson	0	0	0	0	0	0	0	0	0	0	0	0
	Seaforth	76	0	61	23	3,842	3	50-36[b]	0	110	435	10,807	2
Day Total		76	0	61	23	3,842	3	50-36	0	110	435	10,807	2
Week Total		-	0	61	23	3,842	3	-	0	110	435	10,807	2
Total for Year		-	1,268	1,241	1,026	8,281	105	-	13,070	8,223	41,029	22,313	1,164

[a]No breakdown by area available this week.
[b]The two consecutive numbers indicate number of boats at the start and end of that fishing interval respectively.
[c]A few gillnets started the fishery in Seaforth but due to poor catches moved to Milbanke or other areas.

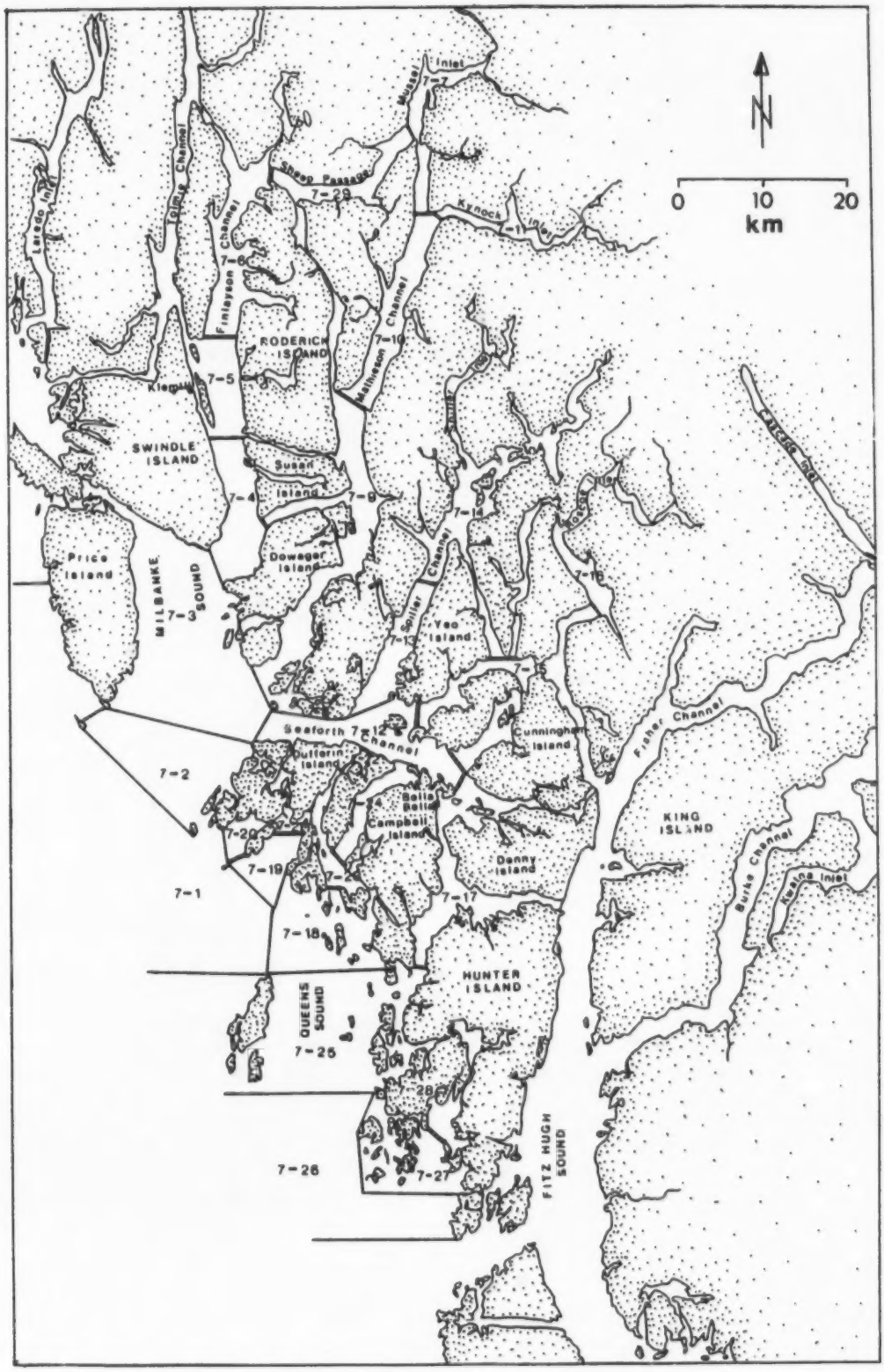

Fig.3. Location of Area 7 management units, B.C.

August 7-21

Area 7 remained closed for two weeks. The poor catches to date and poor showing in sanctuaries and spawning streams indicated low returns of both chum and pink salmon. Indian Food fishing during this period confirmed the poor run size.

August 21-28

A 24-hour fishery was scheduled for both seines and gillnets in M.U.'s 7-3, 7-4 and 7-12. Catches were poor and the fishery was closed as scheduled.

August 28-September 18

Escapements of chum to local streams continued to be low. This, in addition to the poor catches in previous fisheries resulted in a three-week closure.

September 18-25

A 12-hour fishery was scheduled to begin at 0700 hours on September 19 in M.U.'s 7-12 and 7-13 for both gear types. This fishery was opened to assess chum stocks returning to the Neekas, Kwakusdis and Clatse rivers which all had relatively strong brood year escapements. The fishery was limited to 12 hours and the opening delayed from the normal time to discourage vessels from travelling to this area to fish. Inspite of these actions, 50 seines and 73 gillnets participated in this fishery.

Both pink and chum catches were poor and a high percentage of the chum catch was dark. Area 7 was closed for the balance of the season following this fishery.

Table 7 shows the annual commercial salmon net catches by species and gear in Area 7 for the period 1951 to 1983. Compared to the preceeding five-year catch averages, the 1983 net catches were extremely low for all species. Total 1983 net catch was only 11% of the annual net catch average for 1978 to 1982. Seines captured 88% of the 1983 net catch in Area 7.

ESCAPEMENTS, AREA 7

The annual Area 7 salmon escapements by species for the period 1947 to 1983 are presented in Table 8. The 1983 pink escapement of 324,635 was close to the escapement goal of 350,000 and was above both the brood year escapement (269,160) and the 5-year cycle average (257,550) during the period 1973 to 1981. The chum escapement of 124,118 was below the 10-year average of 186,078 during the period 1973 to 1982 and well below the optimum escapement of 350,000. However, even with no chum catch in Area 7 in 1983, the chum escapement would have been less than average. Sockeye escapement was 3,270 or approximately half the 1973 to 1982 mean escapement. Nearly all the sockeye escapement was confined to Kadjusdis and Tinkey rivers. The coho escapement of 952 was the lowest on record.

REVIEW, AREA 7

Returns of all salmon species to Area 7 were low in 1983 and were less than expected. The fishery was opened for one day per week during most of the

Table 7. Annual commercial salmon net catches by species and gear, Area 7, 1951 - 1983.[a]

	SOCKEYE				COHO				PINK				CHUM				CHINOOK			
Year	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total
1951	14327	1690	34	16051	34280	20951	106850	162081	100267	78274	4255	182796	272931	158970	393	432294	1252	815	8494	10561
1952	12137	2635	0	14772	18304	9679	152417	180400	99325	287685	1239	388249	63854	90104	33	153991	553	719	9297	10569
1953	7767	7855	53	15675	16822	9495	90139	116456	48187	159054	2568	209809	274552	191839	36	466427	1442	551	9433	11426
1954	10970	3910	0	14880	21119	8942	38710	68771	109517	208730	1066	319313	192144	174835	19	366998	1015	912	7414	9341
1955	9034	8277	29	17340	25237	15134	53313	93684	123025	315563	1534	440122	129904	56211	5	186120	1473	1008	8782	11263
1956	7865	6436	0	14301	28369	16959	93825	139153	137449	812658	2982	953089	132534	79754	32	212320	1104	781	13161	15046
1957	5449	3480	0	8929	25678	6513	134513	166704	105699	175515	7243	288457	301812	162673	112	464597	1018	356	8962	10336
1958	15168	2121	0	17289	19246	2377	133761	155384	78710	58990	4788	142488	222528	45984	91	268603	2840	581	12572	15738
1959	3391	3021	0	6412	22143	3007	57475	82625	33153	23545	19988	76686	62995	7557	32	70584	1280	581	11218	13079
1960	5828	3097	0	8925	33366	5504	83974	122844	104542	71008	20802	196352	108147	16604	157	124908	2100	530	9486	12116
1961	9079	4722	0	13801	47724	16344	92679	156747	198470	354724	28996	582190	79573	23991	523	104087	1711	775	13333	15819
1962	22554	3833	142	26529	42253	14001	142857	199111	418090	791294	66268	1275652	183666	74841	538	259045	2494	907	12886	16287
1963	22931	4724	238	27893	47673	13023	141793	202489	142556	211272	50968	404796	161191	52321	1301	214813	3237	1208	16820	21265
1964	20547	9218	288	30053	43522	19097	134841	197460	158550	469078	68245	695873	141612	151358	1130	294100	2312	1351	20241	23904
1965	18521	14390	87	32998	50766	39372	49646	139784	170328	432483	12763	615574	35748	22491	339	58578	3532	6851	16368	26751
1966	39567	12892	169	52628	50086	25306	88053	163445	361935	959373	45908	1367216	168624	120692	246	289562	2622	2800	21841	27263
1967	18352	13006	419	31777	7611	3827	65186	76624	19089	16670	36213	71972	63551	20759	113	84423	868	2280	22425	25573
1968	19402	14337	489	34228	33120	20482	122403	176005	43151	780912	49926	873989	224718	148289	297	373304	1635	2524	21003	25162
1969	3080	5550	393	9023	14537	4314	62081	80932	15887	24710	4859	45456	158437	36424	459	195320	946	2755	21528	25229
1970	47477	10896	818	59191	92631	14876	116985	224492	428120	385555	92466	906141	694635	103187	8600	806422	9235	5768	22848	37851
1971	12079	15879	492	28450	21665	10086	147136	178887	45366	229249	11848	286463	233287	58517	2816	294620	1059	5208	30296	36563
1972	43748	24979	283	69010	76948	28394	120830	226172	137838	1178662	56954	1373454	518121	115536	1532	635189	6658	12174	35186	54018
1973	14995	24976	2510	42481	70065	21050	111258	202373	67882	315659	11794	395335	1007255	255794	9481	1272530	8380	12646	25689	46715
1974	45818	26039	626	72483	81119	20847	68231	170197	117470	383945	24730	526145	432907	117453	1660	552020	12380	13176	26097	51653
1975	12735	21473	108	34316	61449	16097	26274	103820	37412	146710	4136	188258	101165	61227	632	163024	6545	17695	28633	52873
1976	10684	43844	506	55034	14651	23763	82347	120761	62168	424371	13549	500088	106661	42353	302	149316	1200	10924	36779	48903
1977	13638	29582	1334	44554	11453	11516	46529	69498	87725	199681	32942	320348	44229	31395	1294	76918	1875	5986	29832	37693
1978	12994	17632	3537	34163	24216	16277	65871	106364	29474	299483	15860	344817	287672	45249	1961	334882	2572	8120	27582	38274
1979	7343	69174	890	77407	10321	37295	67447	115063	34027	534100	39138	607265	100326	112981	2817	216124	3305	28559	37786	69650
1980	6288	53584	842	60714	15975	16950	39242	72167	25527	396427	31026	452980	284875	111979	2740	399594	2893	11252	26014	40159
1981	13524	100445	925	114894	12310	27998	32474	72782	91770	847219	41720	980709	116376	87478	1198	205052	763	10226	18476	29465
1982	11112	128738	883	140733	12861	27516	18873	59250	6438	167344	3942	177724	155139	100497	519	256155	1554	18613	17487	37654
1983	1268	13070	1199	15537	1241	8223	36840	46304	1026	41029	21111	63166	8281	22313	857	31451	105	1164	16092	17361
Mean 1978-82	10252	73915	1415	85582	15137	25207	44781	85125	37447	448915	26337	512699	188878	91637	1847	282361	2217	15354	25469	43040

[a]From B.C. Catch Statistics; 1951, 1952, 1953 and 1955 catches for sockeye, coho, pink and chum from Area Histories.

Table 8. Annual spawning escapements for sockeye, coho, pink, chum and chinook, Area 7, 1947-1983.[a]

Year	Sockeye	Coho	Pink	Chum	Chinook
1947	12,750	19,750	224,575	427,300	0
1948	6,800	21,125	48,550	190,900	0
1949	17,900	31,450	335,000	273,775	0
1950	12,381	15,225	200,850	412,100	25
1951	4,375	9,950	328,450	182,475	25
1952	8,475	27,250	315,675	324,050	125
1953	18,662	26,225	196,125	314,200	25
1954	18,150	22,975	296,700	322,775	0
1955	19,050	28,650	310,850	230,525	0
1956	10,040	29,150	373,675	155,250	0
1957	9,950	14,700	415,950	216,450	0
1958	8,525	6,150	81,900	262,775	0
1959	15,658	23,375	185,925	130,750	25
1960	5,950	7,400	115,625	131,475	25
1961	11,025	18,250	331,525	87,450	25
1962	13,125	21,625	276,500	228,975	0
1963	19,850	13,700	267,050	170,325	25
1964	12,350	25,475	343,700	207,175	0
1965	2,800	24,040	111,535	85,980	25
1966	41,800	23,540	545,650	452,917	0
1967	16,225	11,150	150,180	193,290	75
1968	12,675	22,725	554,625	334,275	0
1969	6,400	12,375	234,060	221,210	25
1970	11,800	10,925	323,265	372,650	0
1971	16,500	14,155	416,800	238,775	0
1972	10,900	11,775	269,150	266,000	0
1973	14,700	7,550	182,650	405,150	0
1974	9,220	9,235	153,425	228,090	0
1975	6,050	6,650	101,850	105,940	0
1976	5,325	9,175	263,740	95,735	0
1977	7,575	7,395	292,770	155,810	0
1978	7,925	6,850	287,710	267,750	0
1979	6,280	8,393	441,318	169,677	0
1980	2,921	1,521	229,821	97,567	0
1981	4,660	2,519	269,160	134,680	0
1982	4,606	2,730	168,475	200,382	0
1983	3,270	952	324,635	124,118	0
Mean 1973-1982	6,926	6,202	-	186,078	0
Mean 1973-1981 (odd-year cycle)	-	-	257,550	-	-

[a]These escapements are presently being revised from historical records. Some changes have been made and more are expected. The above 10-year averages may differ from those published in the 1983 expectations.

fishery to assess chum and pink stock strength. Catches of both species remained poor and no fishing extensions were permitted. The fishing areas were confined to the Seaforth - Finlayson channels and inner Millbanke Sound areas. These fishing locations allowed for assessment of stocks bound for local areas but did not encourage large fleets to travel to Area 7 to fish. In the past, relatively large fleets have been attracted to Area 7 when outer Milbanke Sound (M.U. 7-2) was opened. This fishery targets on passing sockeye stocks but also catches pink and chum salmon bound for Areas 7 and 8 and possibly Area 6. The more restricted fishing zones in Area 7 in 1983 resulted, in part, in fewer vessels fishing in that area. Even with the openings in July, only a small portion of returns was harvested and the bulk of the fish escaped. A larger fleet size would have resulted in a larger catch and fewer fish escaping to spawn. In retrospect, some additional fishery closures may have been considered in July when the fisheries indicated low stock abundance; this was subsequently confirmed by stream escapement counts. However, the small fleet observed throughout most of the 1983 fishery resulted in a low harvest rate.

AREA 8

1983 PRE-SEASON STOCK EXPECTATIONS

The 1983 stock expectations and fishing plans for Area 8 are described in detail in Appendix 3 and are reviewed briefly below.

Sockeye

Sockeye escapements have fluctuated between averages of 50,000 to 100,000 prior to 1975 and since then have declined steadily. Below average returns were expected, but a one-day test fishery was scheduled for early July.

Coho

Coho escapements have declined slowly since 1950. Present levels are less than 25% of previous averages. A poor return of local stocks was expected. Coho catches are incidental during fisheries targeting on other species.

Pink (odd-year)

Odd-year escapements fluctuated widely from 1950 to 1970, but generally have been well below the optimum level. A general increase in escapements has occurred since 1971. Other than the Atnarko River, all systems had good escapements in the brood year. A small fishery on non-Atnarko stocks was anticipated.

Chum

Stock levels have fluctuated drastically prior to 1975 and since then have been relatively stable at 75% of desired escapement level. Brood year escapement was poor; however, the 1982 returns were strong for 3-year olds and it was felt this might indicate a stronger than expected return of 4-year old fish. Stock strength was to be assessed during the early July fisheries.

Chinook

Chinook escapements have fluctuated around 60% of optimum prior to 1980. A severe decline to 25% of the desired level has occurred in the last three years. The brood year escapements were poor. A commercial test fishery was scheduled to assess stock strength.

1983 PRE-SEASON FISHING PATTERN, AREA 8

The net fishery in the Bella Coola area was scheduled to open on May 15 for one day to assess chinook strength. Future openings would depend on initial catches. A sockeye fishery would begin July 3 for gillnets only and on July 10 for gillnets and seines. Fisheries for pink and chum salmon would begin on July 17. Due to the poor pink brood year escapement to Atnarko River, it was anticipated that gillnet mesh restrictions may be implemented to reduce pink catches in the Bella Coola Gillnet Area. Chum stock strength would be assessed in the July fisheries.

1983 WEEKLY FISHING SUMMARY, AREA 8

Table 9 summarizes weekly in-season fishery management and its rationale. Table 10 presents Area 8 weekly commercial net catches by gear and species. Figure 4 shows Area 8 management units.

May 15-29

There were two 24-hour openings scheduled each week beginning at 1800 hours each Monday in M.U.'s 8-2, 8-3, 8-4, 8-5, 8-7, 8-8, 8-10, 8-12, 8-13 and 8-15. In addition, M.U. 8-11 was opened each Monday but only from 1800 to 2100 hours, and also each Tuesday from 0530 to 1800 hours. This was done to minimize seal predation on chinook catches; this predation is greatest during night-time fisheries. Chinook catches were poor in both fisheries and the areas were closed as scheduled.

May 29-June 5

The combination of poor catches in the commercial gillnet fishery and in the Indian Food Fishery on the lower Bella Coola River resulted in a closure of commercial fishing.

June 5-12

A fishery to assess chinook stock strength was scheduled for 24 hours beginning June 6 at the same time and in the same areas as the previous fisheries. The only change was that M.U. 8-11 was opened to 2200 hours on Monday instead of 2100 hours as in the earlier fisheries. Tides were favourable this week for chinook fishing; however, catches continued to be low and the fishery was closed as scheduled.

June 12-19

The fishery remained closed to conserve chinook stocks.

June 19-26

The same areas as in the previous fisheries were scheduled to open for 24 hours. The only change was that in M.U. 8-11 the fishery on Tuesday was to begin at 0500 hours rather than 0530 hours. Catches were again low and the fishery was closed as scheduled.

July 26-July 3

The fishery remained closed to conserve chinook. Koeye and Bella Coola sockeye stocks did not warrant a fishery this week.

July 3-10

A gillnet only fishery with a maximum mesh size of 165 mm was scheduled for 24 hours in M.U.'s 8-3, 8-4, 8-5, 8-8, 8-10, 8-11, 8-12 and 8-15. This

Table 9. Weekly net fishing season: pre-season plans, in-season management and rationale for management, Area 8, 1983.[a]

Date	Pre-season Fishing Plans	In-season Management	Rationale for In-season Management
May 15 - 29	One day opening May 15; further openings dependant.	Opened to gillnets 1 day per week.	- fishery opened to assess chinook stock strength - fishery closed due to low chinook catches
May 29 - June 5	No set pattern for opening; dependant on previous weeks' fisheries and Indian Food Fishery results.	Closed.	- fishery remained closed due to poor catches in the commercial gillnet fishery and the Indian Food Fishery on lower Bella Coola River
June 5 - 12	As above.	Opened to gillnets 1 day.	- fishery opened to assess chinook stock strength - fishery closed due to low chinook catches
June 12 - 19	As above.	Closed.	- fishery closed to conserve chinook stocks
June 19 - 26	As above.	Opened to gillnets 1 day.	- fishery closed due to low catches
June 26 - July 3	As above.	Closed.	- fishery remained closed to conserve chinook and selected sockeye stocks
July 3 - 10	Open to gillnets 1 day.	Opened to gillnets 1 day.	- fishery opened with a mesh size restriction to target on sockeye - fishery closed due to poor sockeye catches
July 10 - 17	Open to nets 1 day.	Opened to nets 1 day.	- fishery opened to assess sockeye strength - fishery closed due to low sockeye abundance
July 17 - 24	Open to nets 1 day.	Opened to nets 1 day; extended 1 day.	- fishery opened to assess pink stock strength - fishery extended due to better than expected sockeye and chum catches - fishery closed since no new chum stocks were entering the area
July 24 - 31	Fishing times were not established.	Opened to nets 1 day.	- fishery closed due to concern over pink run
July 31 - Aug. 7	As above.	Opened to nets 1 day; extended 1 day.	- fishery extended due to good chum catches - fishery closed since apparently no new chum stocks were entering the area
Aug. 7 - 14	As above.	Opened to nets 1 day; extended 12 hours.	- fishery designed to minimize pink interceptions - fishery extened to harvest chum - fishery closed since apparently a high proportion of milling chum were caught
Aug. 14 - 21	As above.	Opened to nets 1 day; extended 3 days.	- fishery extended due to good pink and chum catches
Aug. 21 - 28	As above.	Opened to nets 1 day; extended 1 day.	- fishery extended based on chum catches and early good escapements - fishery closed due to declining catches - fishery terminated for the season

[a]For details see text and Appendix 3.

Table 10. Daily gillnet and seine catches by species and the number of gear, Area 8, 1983.[a]

		GILLNET						SEINE					
Date	Area[b]	No. Gear	Sockeye	Coho	Pink	Chum	Chinook	No. Gear	Sockeye	Coho	Pink	Chum	Chinook
May 16/17	BCGNA	31	0	0	0	0	52	CLOSED TO SEINES UNTIL JULY 10					
	Day Total	31	0	0	0	0	52						
	Week Total	-	0	0	0	0	52						
May 23/24	BCGNA	41	0	0	0	1	132						
	Day Total	41	0	0	0	1	132						
	Week Total	-	0	0	0	1	132						
May 29 - June 5	C L O S E D												
June 6/7	BCGNA	47	0	0	0	12	265						
	Day Total	47	0	0	0	12	265						
	Week Total	-	0	0	0	12	265						
June 12 - 19	C L O S E D												
June 20/21	BCGNA	58	6	0	0	39	356						
	Day Total	58	6	0	0	39	356						
	Week Total	-	6	0	0	39	356						
June 26 - July 3	C L O S E D												
July 3/4	BCGNA	44	891	146	80	254	93						
	DCGNA	10	269	32	10	125	42						
	F/FH	141	1,087	585	676	995	142						
	Day Total	185	2,247	763	766	1,374	277						
	Week Total	-	2,247	763	766	1,374	277						
July 10/11	BCGNA	38	5,439	182	443	1,187	132						
	DCGNA	28	1,461	64	31	578	15						
	F/FH	112	3,742	418	389	5,768	116	20	2,164	837	2,428	1,866	147
	Day Total	178	10,642	664	863	7,533	263	20	2,164	837	2,428	1,866	147
	Week Total	-	10,642	664	863	7,533	263	-	2,164	837	2,428	1,866	147
July 17/18	BCGNA	34	4,379	139	1,736	1,669	73						
	DCGNA	24	2,021	40	160	999	22						
	F/FH	92	2,170	353	1,083	5,064	193	57-70[c]	10,101	2,568	41,185	9,255	939
	Day Total	208	8,570	532	2,979	7,732	288		10,101	2,568	41,185	9,255	939
July 18/19	BCGNA	37	2,790	114	2,687	2,501	67						
	DCGNA	22	2,413	62	263	2,721	23						
	F/FH	110-120[c]	4,952	647	2,299	10,274	126	75-80[c]	13,966	3,340	67,428	14,054	264
	Day Total	-	10,155	823	5,249	15,496	216	75-80	13,966	3,340	67,428	14,054	264
	Week Total	-	18,725	1,355	8,228	23,228	504	-	24,067	5,908	108,513	23,309	1,203
July 24/25	BCGNA	37	1,116	99	2,077	4,654	46						
	DCGNA	94-70[c]	1,425	72	169	7,380	30						
	F/FH	36	1,848	422	707	9,114	1	44-30[c]	5,118	1,535	41,489	8,427	226
	Day Total	-	4,389	593	2,953	21,148	77	44-30					
	Week Total	-	4,389	593	2,953	21,148	77	-	5,118	1,535	41,489	8,427	226
July 31/ Aug. 1	BCGNA	58	131	235	2,369	10,519	28						
	DCGNA	37	175	64	80	6,188	9						
	F/FH	96	289	572	377	10,707	38	6	388	214	6,782	5,539	10
	Day Total	191	595	871	2,826	27,414	75	6	388	214	6,782	5,539	10
Aug. 1/2	BCGNA	54	132	185	1,764	8,468	21						
	DCGNA	27	142	46	102	13,769	6						
	F/FH	95	521	425	765	16,801	89	9	394	551	14,713	8,326	6
	Day Total	176	795	656	2,631	39,038	116	9	394	551	14,713	8,326	6
	Week Total	-	1,390	1,527	5,457	66,452	191	-	782	765	21,495	13,865	16

Table 10. Cont'd.

Date	Area[b]	GILLNET No. Gear	Sockeye	Coho	Pink	Chum	Chinook	SEINE No. Gear	Sockeye	Coho	Pink	Chum	Chinook
Aug. 7/8	BCGNA	61	165	195	804	7,152	35						
	DCGNA	66	184	185	192	10,663	34						
	F/FH	117	297	701	916	9,919	89	15	449	1,007	29,348	7,565	215
	Day Total	244	646	1,081	1,912	27,734	158	15	449	1,007	29,348	7,565	215
Aug. 8/9	BCGNA	75	72	203	1,044	8,783	24						
	DCGNA	40	72	162	275	6,979	26						
	F/FH												
	Day Total	115	144	365	1,319	15,762	50						
	Week Total	-	790	1,446	3,231	43,496	208	-	449	1,007	29,348	7,565	215
Aug 14/15	BCGNA	60	159	217	874	6,865	36						
	DCGNA	67	59	246	215	8,466	36						
	F/FH	104	125	1,190	1,642	4,564	81	10	368	1,276	67,606	808	38
	Day total	231	343	1,653	2,731	19,895	153	10	368	1,276	67,606	808	38
Aug 15/16	BCGNA	55	109	221	1,046	4,494	11						
	DCGNA	66	23	117	96	5,915	12						
	F/FH	80	217	1,351	1,722	9,456	102	66	2,640	1,650	145,662	3,564	396
	Day total	201	349	1,689	2,864	19,865	125	66	2,640	1,650	145,662	3,564	396
Aug 16/17	BCGNA	50	95	196	781	4,985	15						
	DCGNA	40	29	92	174	5,263	8						
	F/FH	61	109	434	607	4,902	28	55	20,434	9,511	187,203	19,465	955
	Day total	151	233	722	1,562	15,150	51	55	20,434	9,511	187,203	19,465	955
Aug 17/18	BCGNA	54	83	207	758	3,466	22						
	DCGNA	43	33	187	267	7,184	9						
	F/FH	62	90	504	732	5,442	23	50	19,458	4,758	165,431	16,565	567
	Day total	159	206	898	1,757	16,092	54	50	19,458	4,758	165,431	16,565	567
	Week total	-	1,131	4,962	8,914	71,002	383	-	42,900	17,195	565,902	40,402	1,956
Aug 21/22	BCGNA	60	67	364	1,365	2,014	18						
	DCGNA	71	19	138	116	3,399	20						
	F/FH	111	85	1,293	917	5,631	20	18-23[c]	200	1,000	50,016	2,000	100
	Day total	242	171	1,795	2,398	11,044	58	18-23	200	1,000	50,016	2,000	100
Aug 22/23	BCGNA	47	38	306	474	1,783	21						
	DCGNA	41	24	366	245	4,241	20						
	F/FH	108	104	1,524	1,467	6,552	131	38	1,796	2,579	75,386	3,134	156
	Day total	196	166	2,196	2,186	12,576	172	38	1,796	2,579	75,386	3,134	156
	Week total	-	337	3,991	4,584	23,620	230	-	1,996	3,579	125,402	5,134	256
	Total for year	39,657	15,301	34,996	257,905	2,938		-	77,476	30,826	894,677	100,568	4,019

[a]Where two or more consecutive days have been fished, the last day's catch is often the largest in a series since it includes corrections for any underestimates made by fishery officers in the previous day's catch approximations.

[b]BCGNA - Bella Coola Gillnet Area
DCGNA - Dean Channel Gillnet Area
F/FH - Fisher Channel - Fitz Hugh Sound

[c]The two consecutive numbers indicate number of boats at the start and end of that fishiry interval respectively.

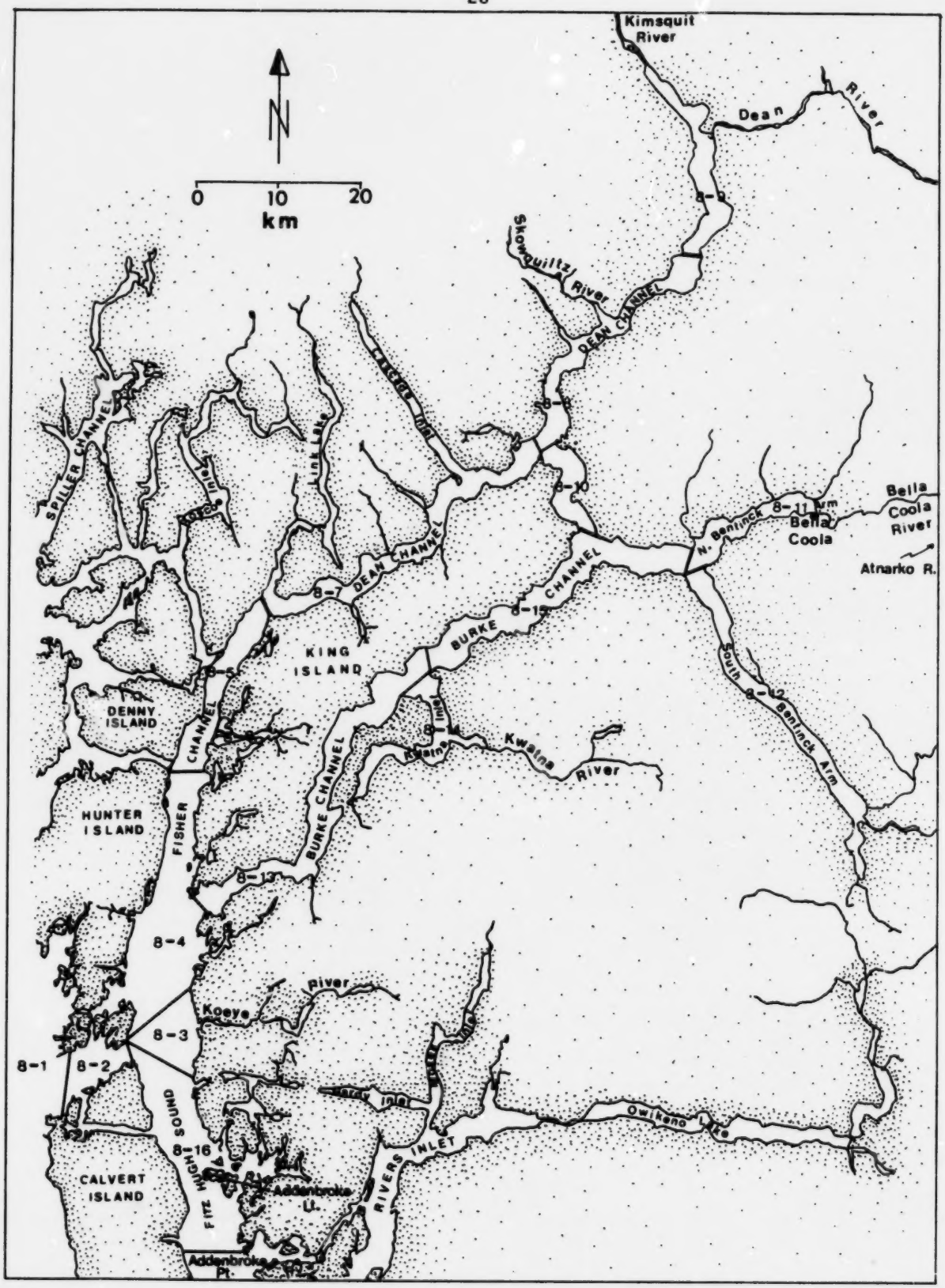

Fig.4. Location of Area 8 management units, B.C.

fishery would be targeting on sockeye (the last of Bella Coola and the start of Kimsquit runs). The above mesh size was implemented to reduce chinook catch. Management units 8-2 and 8-16 remained closed to avoid harvesting Area 9 sockeye which migrated through these areas when entering Rivers Inlet. Sockeye catch averages were poor and the fishery was closed as scheduled.

July 10-17

A 24-hour fishery to assess sockeye strength was scheduled for gillnets in the same areas as last week. In addition, seines were permitted to fish in M.U.'s 8-3, 8-4 and 8-5. Sockeye catch averages varied but were generally low; the highest averages for gillnets were reported in the Dean Channel area. The catches in the Fisher Channel - Fitz Hugh Sound did not indicate any abundance of sockeye. The fishery was closed after 24 hours.

July 17-24

A 24-hour fishery to assess pink strength was scheduled for the same areas and gear as last week. Sockeye and chum catches were better than expected, particularly for gillnets, while pink catch averages were very low. Based on the abundance of sockeye and chum, the fishery was extended for 24 hours. It was thought that the main pink run was still to come and that management actions could be taken to conserve pink stocks in later fisheries.

Chum catches continued to hold in the Dean Channel area (M.U. 8-8) during the second day of the fishery. However, catches dropped off in the Fisher Channel - Fitz Hugh Sound area and the fish were not silver-bright. By evening of the second day, catches in the Dean Channel area were also comprised of dark fish suggesting that no fresh or new fish were moving into the area. The fishery was closed after the second day.

July 24-31

A 24-hour opening was scheduled in the same areas and for the same gear as last week. Management unit 8-2 was also opened to both gear types as it was thought that Rivers Inlet sockeye had gone through this area by this time. Pink catches were poor while chum catches continued to be above average. Because of the concern over the pink run the fishery was closed as scheduled.

July 31-August 7

A 24-hour fishery was scheduled for gillnets in the same areas as last week except that M.U. 8-2 was closed to conserve the low Atnarko River pink run which was in this area. As well, seines were restricted to M.U. 8-5 only to further reduce the interceptions of Atnarko River pink salmon. Finally, a minimum gillnet mesh size of 149 mm was instituted to reduce pink catches.

Chum catches were good in all areas and based on chum abundance the fishery was extended for 24 hours. On the second day, catches continued to be good; however, a high proportion of the chum harvested in North Bentinck Arm were dark. This suggested that fish were holding rather than moving into sanctuary areas and rivers. The fishery was closed after the second day.

August 7-14

A 24-hour gillnet fishery was scheduled in M.U.'s 8-3, 8-4, 8-5, 8-8, 8-10 and 8-15 with minimum mesh size of 149 mm. The outside boundary in M.U. 8-8 was moved seaward to Skowquiltz River. This was done because it was thought that fish were "milling" or holding in the vicinity of the previous boundary and thus were subject to an unacceptably high exploitation when

compared to other fish which were moving and not holding. Seines were scheduled for 24 hours in M.U. 8-5 only. This opening pattern was designed to minimize interceptions of pink salmon, particularly the weak stocks bound for the Atnarko River.

Chum catch averages continued to be good; however, due to concerns for pink stocks, M.U.'s 8-3, 8-4 and 8-5 were closed to net fishing. The remaining areas were extended 12 hours for gillnets to harvest chum. Fishing on the second day continued to be good but catches of dark fish gilling on either side of the gillnets suggested that fish were milling. This raised concerns that catches were high not because of high chum abundance but rather that a high proportion of the milling chum were being caught. Based on these concerns the fishery was closed after the 12-hour extension.

August 14-21

Based on the chum catches in the previous fishery, a 24-hour fishery was scheduled for gillnets only in M.U.'s 8-8, 8-10 and 8-15 while both gears were permitted in M.U.'s 8-2, 8-3 and 8-4. The openings in the outer areas were intended to assess Koeye - Kwatna river pink stocks where surpluses were expected. Management unit 8-5 was closed because of concerns for chum escapement to the outer Dean Channel streams whose escapements at this time appeared low. Management units 8-11 and 8-12 were also kept closed to provide greater protection to North and South Bentinck Arm chum stocks.

Catches of both pink (seine only) and chum were good and consequently the fishery was extended for three additional days. Management unit 8-3 was closed after 24 hours as scheduled in order to conserve Koeye River pink run whose escapement to date was low. The extensions in fishing were in part due to the relatively good chum catch averages but also because there was a large sanctuary area (i.e. most of Dean Channel, upper Fisher Channel and North and South Bentinck Arms) in which fishing was not permitted, and good escapements to the Bella Coola and Kimsquit rivers. Pink catches by seines also remained high; however, the destination of these stocks was uncertain.

August 21-28

A 24-hour fishery was scheduled for gillnets in M.U.'s 8-2, 8-4, 8-5, 8-8, 8-10, 8-15 and 8-16 and for seines in M.U.'s 8-2, 8-4, 8-5 and 8-16. In M.U. 8-16, the Fitz Hugh Sound boundary was moved from Addenbroke Point to Addenbroke Light in order to minimize the interceptions of pink salmon bound for Area 9. The fishery was extended for 24 hours based on chum catches and the early good escapement to streams in the outer Dean Channel area (M.U. 8-7). However, catches declined by the second day and Koeye pink escapement appeared low, so the fishery was closed.

Management unit 8-5 was originally scheduled to open for 12 hours only but was extended for 24 hours to coincide with the openings in other Area 8 regions.However, seine pink catches were not high and the chum catches were declining; therefore, this area was closed after 24 hours.

No more net fisheries were conducted in Area 8 after this opening. A fishery for fall chum in the Bella Coola area (M.U.'s 8-11, 8-12 and 8-15) and possibly in Fisher Channel - Fitz Hugh Sound area (M.U. 8-4) was considered for mid-September. However, stream surveys in early September indicated that escapements were poor and no fisheries were warranted.

Table 11 shows the annual commercial salmon net catches by species and gear in Area 8 for the period 1951 to 1983. Compared to the preceeding five-year catch averages, the 1983 net catches were lower for sockeye, pink and chinook, but higher for coho and chum. Seines captured 76% of the 1983 net catch in Area 8.

ESCAPEMENTS, AREA 8

The annual Area 8 salmon escapements by species for the period 1947 to 1983 are presented in Table 12. Escapements for most species were at or above recent year averages except for chinook which were less. The Area 8 pink escapement was 1.42 million compared with the brood year of 736,360 and the five-year odd cycle average of 522,270 for the 1973 to 1981 period. The majority of this escapement (1 million) entered the Atnarko River and was considered to be an optimum escapement for this stream. The chum escapement of 154,895 was approximately 75% of the optimum of 200,000. Both the Bella Coola and Kimsquit rivers had escapements of near 55,000 which is close to the optimum level of 60,000 for each stream. The sockeye escapement of 57,975 was slightly above the average of 55,673 fo. the 1973 to 1982 period but was well below the optimum of 100,000. The Bella Coola River received 25,000 fish while Kimsquit River received 30,000 spawners. The coho escapement of 39,385 was double the brood year escapement but still well short of the desired 75,000. Chinook escapement was 9,210 compared to the average of 13,442 for the 1973 to 1982 period and the optimum of 35,000. The majority of the chinook escapement (8,600) were counted in the Bella Coola - Atnarko system, while the Dean River had an escapement of 500, the lowest on record.

REVIEW, AREA 8

The fishery in Area 8 this season was largely based on the high abundance of chum salmon. This was unexpected as pre-season forecasts indicated a poor to moderate return based on the relatively poor brood year escapement. However, the 1982 return had a high percentage of 3-year olds indicating a better than expected return of 4-year olds.

Atnarko pink salmon were predicted to return at low levels given the poor brood year; however, escapement in 1983 showed itself at optimal levels. This can be attributed to the limited fisheries for most of July and to some extent the mesh restriction for gillnets which further reduced pink interceptions. In addition, seines were confined to M.U. 8-5 during what is thought to be the peak of the Atnarko run in the Fitz Hugh Sound area (July 31-August 7) and this is considered also to have reduced the exploitation on Atnarko pink salmon.

The chum escapement to Area 8 was close to the level expected. Escapement was close to the optimum in the two major chum systems (Kimsquit and Bella Coola) but was down in some others. In particular, streams entering the Dean Channel area (M.U. 8-7) had escapements which, although above their brood year levels, were approximately half their optimum levels. The shortfall to these streams may have been reduced by not fishing in M.U. 8-5 during the first two weeks in August; a high proportion of M.U. 8-7 chum are thought to be in Fisher Channel at this time.

Table 11. Annual commercial salmon net catches by species and gear, Area 8, 1951 - 1983.[a]

Year	SOCKEYE				COHO				PINK				CHUM				CHINOOK			
	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total
1951	101078	12093	0	113171	108794	79142	62081	250017	544897	1791882	3378	2340157	371787	223730	805	596322	9493	4008	1325	14826
1952	150084	13433	0	163517	41499	14959	35426	91884	397354	241682	653	639689	125380	61695	23	187098	11861	1050	2580	15491
1953	111907	61748	43	173698	68859	27237	36462	132558	214084	302941	2225	519250	239680	166990	45	406715	7000	2900	3700	13600
1954	97272	33170	0	130442	76012	18768	27301	122081	388587	462672	1133	852392	129692	59830	53	189575	9485	4961	4264	18710
1955	44138	36690	42	80870	50875	12622	44066	107563	117924	58890	1521	178335	110998	21382	30	132410	7467	6088	3061	16616
1956	89252	19297	0	108549	99468	35329	31751	166548	323933	705221	4254	1033408	179237	60804	186	240227	7041	2178	3969	13188
1957	35355	15046	0	50401	78539	8556	31488	118583	303943	43895	4178	352016	229294	32954	125	262373	6064	1712	3236	11012
1958	126758	100690	0	227448	72236	19674	48222	140132	418758	382868	2403	804029	237551	64088	63	301702	17398	5658	2332	25388
1959	54907	27639	0	82546	58020	7395	35322	100737	374537	52683	13130	440350	60950	11507	82	72539	14075	3469	3491	21035
1960	55033	31914	0	86947	41445	28744	22175	92364	575008	905787	8396	1489191	83151	56739	54	139944	7930	1831	2309	12070
1961	82519	44006	0	126525	69404	47754	15321	132479	701582	1032311	17611	1751504	97522	73937	164	171623	9262	3854	1241	14357
1962	74070	89811	79	163960	62735	66439	33055	162229	2598423	9545619	47553	12191595	151147	195696	193	347036	10954	5668	2663	19285
1963	67983	83825	36	151844	56313	40124	18059	114496	972838	1046132	6241	2025211	202004	116876	73	318953	10109	7150	1051	18310
1964	85120	221239	285	306644	63738	73981	29411	167130	593145	2237749	21183	2852077	114634	232786	441	347861	19118	8283	2892	30293
1965	33014	44742	44	77800	33754	30997	16189	80940	161647	417551	8709	587907	23060	25843	125	49028	13243	9661	2746	25650
1966	45808	37084	235	83127	70440	49347	44665	164452	565987	1554015	29830	2149832	116736	82931	112	199779	14571	4491	3880	22942
1967	96845	137242	774	234861	13601	3498	21711	38810	12350	7667	23595	43612	72944	17112	131	90187	15809	6322	4121	26252
1968	51221	44077	4456	99754	65844	80168	70377	216389	365366	4968520	101552	5435438	143887	137664	385	281936	14118	7237	5737	27092
1969	32919	10767	132	43818	19243	6263	12688	38194	6351	11708	810	18869	78931	18993	82	98006	9081	3218	3624	15923
1970	40769	59068	1480	101317	35086	28854	57321	121261	471765	1540596	39921	2052282	217259	138063	1638	356960	9297	16001	6340	31638
1971	111313	55740	867	167920	27902	6735	79381	114018	10606	25207	5407	41220	50654	9841	327	60822	6674	5088	6122	17884
1972	23468	62152	328	85948	30973	20736	82886	134595	197739	887033	19984	1104756	178405	54926	443	233774	9010	9545	12615	31170
1973	37907	183712	1952	223571	25443	18196	61166	104805	4552	52228	7687	64467	186400	64763	410	251573	7989	22921	8007	38917
1974	44948	80101	4918	129967	21264	40287	64532	126083	745147	2020773	108575	2874495	1166559	81123	1284	198966	10793	17523	16453	44769
1975	144545	81424	81	226050	30208	12910	14468	57586	14993	75493	5297	95783	103208	31311	229	134748	16380	14300	9801	40481
1976	94321	107831	660	202812	40462	45023	83510	168995	426128	1492718	26470	1945316	204573	129081	353	334007	12897	10548	19824	43269
1977	36773	51564	1022	89359	5215	8584	23328	37127	26592	67517	38720	132829	64095	15429	403	79927	8439	4991	11593	25023
1978	19645	31220	3334	54199	20026	16570	44024	80620	510831	1174274	20697	1705802	86471	38947	777	126195	9146	6438	7754	23338
1979	105408	114726	3653	223787	18069	29655	27726	754540	94769	587238	25152	707159	108748	100553	1401	210702	9177	17071	7450	33698
1980	51321	110118	865	162304	11605	15937	20128	47670	178339	682036	26058	886433	218235	115428	2837	336500	7086	12993	7193	27272
1981	48233	130880	1708	180821	9054	16762	19986	45802	318296	1290306	50397	1658999	184189	118413	1150	303752	5564	7215	6002	18781
1982	23189	13220	1494	37903	7942	3801	8834	20577	15294	23884	1380	40558	167200	14116	1178	182494	6277	3256	2646	12179
1983	39657	77476	2981	120114	15301	30826	24900	71027	34996	894677	25514	955187	257905	100568	1316	359789	2938	4019	4717	11674
Mean 1978-82	49559	80033	2211	131803	13339	16545	24140	54024	223506	751548	24737	999790	152969	77491	1469	231929	7450	9395	6209	23054

[a]From B.C. Catch Statistics; 1952, 1953 and 1955 catches for sockeye, coho, pink and chum from Area Histories.

Table 12. Annual spawning escapements for sockeye, coho, pink, chum and chinook, Area 8, 1947-1983.[a]

Year	Sockeye	Coho	Pink	Chum	Chinook
1947	20,014	25,662	148,235	153,675	14,500
1948	46,055	22,429	166,460	48,047	5,750
1949	97,100	38,550	339,923	140,668	9,750
1950	94,517	68,192	260,607	189,132	16,500
1951	89,000	81,180	988,170	267,229	19,250
1952	106,887	42,880	365,285	258,246	37,250
1953	81,200	35,550	428,149	313,330	9,000
1954	75,650	117,200	351,377	205,411	18,750
1955	89,816	61,501	350,294	67,551	17,250
1956	92,532	116,464	781,075	194,756	38,500
1957	170,603	107,495	571,783	120,373	15,000
1958	19,248	65,368	283,409	157,099	35,000
1959	91,250	106,565	530,025	76,525	15,000
1960	48,518	44,020	1,571,365	93,187	7,500
1961	39,776	69,814	1,249,004	92,965	15,000
1962	81,500	50,323	3,910,088	150,725	7,500
1963	56,500	98,925	748,425	236,650	20,000
1964	33,550	97,175	763,125	209,225	20,750
1965	15,250	61,500	222,100	13,600	24,250
1966	18,275	66,550	939,850	135,325	18,650
1967	55,990	6,650	65,800	100,800	29,250
1968	13,750	95,000	2,095,000	284,250	26,300
1969	45,750	19,500	59,925	84,600	13,900
1970	30,000	82,900	736,100	275,400	13,250
1971	79,200	38,775	257,200	82,325	34,250
1972	49,925	39,350	1,356,100	224,375	21,325
1973	93,325	65,425	166,875	277,775	19,950
1974	63,225	42,000	1,469,400	146,800	20,425
1975	84,650	34,075	150,100	83,575	7,925
1976	66,625	90,000	1,382,200	125,000	16,550
1977	45,845	43,875	434,690	122,950	15,600
1978	33,050	41,150	2,293,475	49,135	19,000
1979	44,575	52,375	1,123,325	99,485	9,100
1980	35,300	21,250	1,126,375	123,475	9,729
1981	52,581	20,160	736,360	97,090	8,075
1982	37,555	13,985	204,970	129,260	8,070
1983	57,975	39,385	1,420,260	154,895	9,210
Mean 1973-1982	55,673	42,430	-	125,455	13,442
Mean 1973-1981 (odd-year cycle)	-	-	522,270	-	-

[a]These escapements are presently being revised from historical records. Some changes have been made and more are expected. The above 10-year averages may differ from those published in the 1983 expectations.

Another solution would have been to close the outside areas M.U.'s 8-3 and 8-4 entirely since no pink surpluses were identified, and Kimsquit and Bella Coola chum could be harvested more terminally. This was not done mainly because of a desire to provide some fishing opportunities for vessels. Since conservation concerns for pink salmon dictated that M.U.'s 8-3 and 8-4 could not be opened to seines, this left only M.U. 8-5 for possible seine fishery opening where the pink harvest would be minimized, but the impact on chum bound for M.U. 8-7 would be considerable. This option was chosen over the alternative of not fishing seines. If the pink stocks had been stronger, thus accommodating both seines and gillnets in the outside areas, M.U. 8-5 could have been closed to all gear, and this would have allowed free passage to those chum migrating to M.U. 8-7 by way of Area 7.

AREA 9

1983 PRE-SEASON STOCK EXPECTATIONS

The 1983 stock expectations and fishing plans for Area 9 are described in detail in Appendix 4 and are reviewed briefly below.

Sockeye

The stocks are presently recovering from their decline in the late 1970's. The optimum escapement has been increased to 1,000,000 and escapements since 1981 reflect this change. The 1983 expectations were for a below optimum return of 800,000.

Coho

The coho escapements have fluctuated around 7,000 since 1950 with no apparent trends. Coho net catches are incidental during other fisheries.

Pink (odd-year)

Pink odd-year escapements have fluctuated considerably. The increases in the last few odd-cycle years reflect the closures of the sockeye fisheries and the more recent attention given to pink conservation. The 1983 expectations were for a good return with a modest surplus available for harvest.

Chum

Chum escapements have also benefited from the closure of the sockeye fishery and increased attention to conservation. No fishery was anticipated because of poor brood year escapements.

Chinook

Chinook escapements have fluctuated widely in the last 30 years and were around 30% of the optimum level in recent years. There are no directed fisheries on chinook salmon.

1983 PRE-SEASON FISHING PATTERN, AREA 9

No opening was announced for sockeye prior to the start of the fishing season, based on the less than optimum expected return. However, weekly management meetings with Industry were scheduled to discuss the sockeye fishing prospects in-season when the results from the echo sounding program became known. A one-day opening in M.U. 9-4 was scheduled for July 31 to harvest the expected surplus of pink salmon. Subsequent fisheries were to be considered following this assessment of stock strength.

1983 WEEKLY FISHING SUMMARY, AREA 9

Table 13 summarizes weekly in-season fishery management and its rationale. Table 14 presents Area 9 weekly commercial gillnet catches by species. Figure 5 shows Area 9 management units.

July 24-31

A 24-hour gillnet only fishery was held in M.U. 9-1 to assess sockeye stock strength. The fishery was called because of an accumulation of fish on the echo sounding grids (Table 15) and indications of outside stock strength. A combination of poor catches from this fishery and indications from the echo sounding program that the run was weaker than expected, resulted in the fishery being closed after one day.

July 31-August 7

A 24-hour gillnet fishery on pink salmon was held as scheduled in M.U. 9-4 with M.U. 9-1 also opening. Although this fishery was intended to assess pink stocks, the fishermen focused on harvesting the tail end of the sockeye run. A 24-hour extension was given in the same areas, based on the limited gear and a desire to spread the fleet among Areas 8, 9, 10 and 11. The boats moved further inside on the second day and, although sockeye catches were good, the pink catch averages were poor. This area was closed on the second day because of concerns for pink and sockeye escapements.

August 7-14

A 24-hour gillnet fishery on pink salmon was conducted in M.U.'s 9-1 and 9-4. Due to poor pink catch averages and concerns for the pink escapements into Johnston Creek and Kilbella and Chuckwalla rivers this fishery was closed after one day.

August 14-21

Area 9 remained closed because of concerns for pink escapements.

August 21-28

A one-day gillnet fishery on pink salmon was held in M.U.'s 9-1, 9-4 and 9-5. Pink catch averages were good and, because fisheries in other areas remained open, effort in Area 9 was limited and the fishery was extended for 24 hours. The area was closed to further fishing after the second day in response to dropping catches, the closure of other areas, and the potential for overharvesting of Johnston Creek pink run. No further openings were scheduled for Area 9 due to inadequate pink and chum escapements.

Table 16 shows the annual commercial salmon net catches by species and gear in Area 9 for the period 1951 to 1983. Compared to the preceeding five-year catch averages, the 1983 net catches were among the lowest on record for all species.

ESCAPEMENTS, AREA 9

The annual Area 9 salmon escapements by species for the period 1947 to 1983 are presented in Table 17. The 1983 sockeye escapement to Owikeno Lake streams totalled 636,502 and was slightly below expectations but above the 1973 to 1982 average of 516,573. The coho escapement estimate of 10,300 was almost double the average of the previous 10 years but was well short of the target of 40,000. The pink escapement of 124,260 (70,000 to Johnston Creek)

Table 13. Weekly net fishing season: pre-season plans, in-season management and rationale for management, Area 9, 1983.[a]

Date	Pre-season Fishing Plans	In-season Management	Rationale for In-season Mamagement
July 24 - 31	Closed.	Opened to gillnets 1 day.	- fishery opened to assess sockeye stock strength - fishery closed due to poor catches and lower than expected runs indicated by echo sounding
July 31 - Aug. 7	Opened to gillnets 1 day.	Opened to gillnets 1 day; extended 1 day.	- fishery opened to assess pink stock strength - fishery extended based on limited gear and a desire to spread the fleet among Areas 8 to 11 - fishery closed due to concern for pink and sockeye escapements
Aug. 7 - 14	Openings dependant on catches during previous week.	Opened to gillnets 1 day.	- fishery closed due to poor pink catches and concerns over pink escapements into selected streams
Aug. 14 - 21	Openings dependant on in-season stock assessment.	Closed.	- fishery remained closed because of concerns over pink escapement
Aug. 21 - 28	As above.	Opened to gillnets 1 day; extended 1 day.	- fishery extended due to good pink catches, limited number of gear and extensions in other fisheries - fishery closed due to dropping catches, closure of other areas and concern for selected pink runs - fishery terminated for the season

[a]For details see text and Appendix 4.

Table 14. Daily gillnet catches by species and the number of gear, Area. 9, 1983.[a]

Date	No. gear	Sockeye	Coho	Pink	Chum	Chinook
July 24/25	225-240[b]	19929	1593	3700	2033	545
Week total	-	19929	1593	3700	2033	545
July 31/August 1	60	3394	213	1079	327	25
August 1/2	50	6008	326	1600	1408	34
Week total	-	9402	539	2679	1735	59
August 7/8	19-14[b]	1554	209	2897	409	36
Week total	-	1554	209	2897	409	36
August 14-21	CLOSED					
August 21/22	4	13	101	1451	82	13
22/23	4	10	69	748	77	3
Week total	-	23	170	2199	159	16
Total for year	-	30,908	2,511	11,475	4,336	656

[a]Where two or more consecutive days have been fished, the last day's catch is often the largest in a series since it includes corrections for any underestimates made by fishery officers in the previous day's catch approximations.

[b]The two consecutive numbers indicate number of boats at the start and end of that fishing interval respectively.

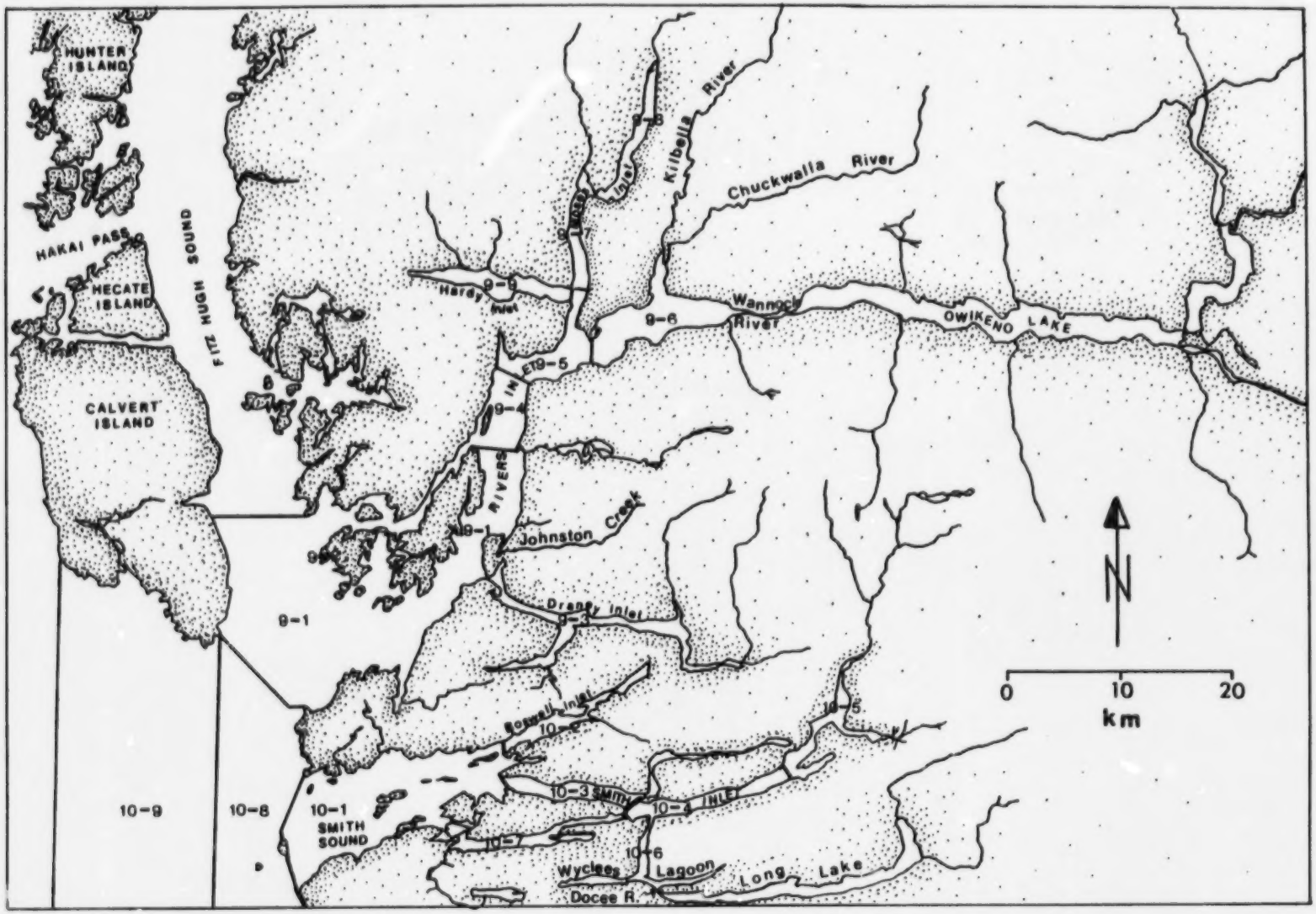

Fig.5. Location of Area 9 and 10 management units, B.C.

Table 15. Daily echo sounding counts for Rivers Inlet, 1983.

Date	Miss Robyn Grid	R.D. 102 Grid	Total
July 10/11	No Count	9,967	9,967
11/12	"	36,334	36,334
12/13	80,617	30,851	111,468
13/14	45,812	43,129	88,941
14/15	23,049	72,903	95,952
15/16	23,291	104,450	127,741
16/17	59,709	128,739	188,448
17/18	111,849	76,285	188,134
18/19	147,560	64,061	211,621
19/20	172,442	95,798	268,240
20/21	218,935	76,010	294,945
21/22	252,687	178,674	431,361
22/23	237,990	No Count	237,990
23/24	228,469	"	228,469
24/25	201,351	36,280	237,631

Table 16. Annual commercial salmon net catches by species and gear, Area 9, 1951 - 1983.[a]

	SOCKEYE				COHO				PINK				CHUM				CHINOOK			
Year	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total
1951	1016228	267	0	1016495	53475	7142	8516	69133	117905	127664	777	246346	29113	8522	199	37834	4881	536	483	5900
1952	938694	28	0	938722	31318	2196	1537	35051	149683	6867	25	156575	11946	24627	11	36584	4804	116	652	5572
1953	1522054	231	2	1522287	17478	1451	4817	23746	87756	18950	129	106835	26597	1743	3	28343	5172	170	510	5852
1954	575650	14	0	575664	27802	570	461	28833	41445	345	4	41794	16055	30890	0	46945	4712	23	382	117
1955	584128	117	0	584245	38000	1737	477	41014	95262	8219	15	103496	14249	6658	0	20907	5930	72	129	6131
1956	1072298	34	0	1072332	33315	1701	472	35488	77331	16808	14	94153	10687	434	0	11121	4663	30	321	5014
1957	373976	0	0	373976	20296	12	1623	21931	50104	0	82	50186	21080	47	2	21129	2593	10	166	2769
1958	1017385	160	0	1017545	26259	458	4145	30862	148116	169	292	148577	32346	27730	1	60077	6254	104	362	6720
1959	439417	2	0	439419	30538	220	5400	36158	37185	0	2082	39267	7831	4370	5	12206	43 2	14	864	5200
1960	515976	527	0	516503	34691	1308	1221	37220	106141	1774	301	108216	18249	2280	3	20532	4352	15	213	4580
1961	842824	129	0	842953	45268	1752	1474	48494	114425	12216	702	127343	17488	725	8	18221	7196	43	714	7953
1962	1035011	906	7	1035924	33969	1119	1348	36436	622822	34978	384	658184	22353	646	3	23002	7108	65	261	7434
1963	437459	0	0	437459	21916	119	644	22679	35277	59	96	35432	24937	164	1	25102	5317	16	184	5517
1964	1053589	2	14850	1068441	46349	379	5764	52492	207351	239	2032	209622	34001	54	39	34094	6833	1	969	7803
1965	644968	6	9	644983	57577	653	2338	60568	29514	328	398	30240	9150	22	15	9187	7595	191	557	8343
1966	528212	0	15	528227	41984	15	5064	47063	256597	0	1979	258576	16876	9	4	16889	7866	4	570	8440
1967	1102617	221	4003	1106841	25989	273	3499	29761	29956	717	3077	33750	18818	655	36	19509	10017	434	1006	11457
1968	2017462	648330	49342	2715134	44904	4759	16993	66656	261514	616518	217292	1095324	32106	8649	546	41301	7284	1897	2934	12115
1969	714689	12641	7111	734441	18933	3483	4752	27168	14113	8980	414	23507	35229	3960	20	39209	6044	2881	925	9850
1970	18506	513	187	19206	31487	1532	4284	37303	113656	72045	11575	197276	81665	22077	904	104646	6194	1058	1508	8760
1971	390954	11584	2	402540	24494	1012	8279	33785	19699	4936	975	25610	15964	746	30	16740	10216	785	1242	12243
1972	367917	11089	79	379085	31820	11108	5152	48080	325736	484463	16656	826855	19155	8305	110	27570	11512	2958	3776	18246
1973	1361967	399409	22071	1783447	32996	8947	10695	52638	40662	49198	3335	93195	34965	11661	181	46807	10254	9786	3617	23657
1974	109979	8725	649	119353	6161	3952	6496	16609	170303	189531	145207	505041	29947	10964	1045	41956	4075	1043	3181	8299
1975	36433	4198	19	40650	17855	1577	5176	24608	9619	17440	775	27834	6181	2087	172	8440	7680	1337	4977	13994
1976	551916	61750	3829	617495	35022	8480	29270	72772	378054	209447	66462	653963	13729	7186	164	21077	8970	3313	11382	23665
1977	497154	163315	7247	667716	39861	3915	25918	69694	160677	29716	39361	229754	33856	8479	487	42822	17499	6527	11657	35683
1978	550729	17953	10401	579083	16544	2531	15926	35001	61069	139599	17401	218069	49295	6027	1556	56878	8066	3124	4415	15605
1979	28349	0	299	28648	5543	0	13346	18889	23676	0	5825	29501	9114	0	482	9596	2829	0	5182	8011
1980	522	0	298	820	1436	0	19277	20713	10856	0	11386	22242	9417	0	1227	10644	540	0	3731	4271
1981	98612	94	525	99231	2848	0	9857	12705	102813	1030	19303	123146	6879	263	229	7371	461	0	2110	2571
1982	39178	0	472	39650	1301	0	7705	9006	1944	0	852	2796	11337	0	239	11576	503	0	3282	3785
1983	30908	0	0	30908	2511	0	0	2511	11475	0	0	11475	4336	0	0	4336	656	0	0	656
Mean 1978-82	143478	3609	2399	149488	5534	506	13222	19263	40072	28126	10953	79151	17208	1258	747	19213	2481	625	3744	6849

[a]From B.C. Catch Statistics; 1952, 1953 and 1955 catches of sockeye, coho, pink and chum from Area Histories.

Table 17. Annual spawning escapements for sockeye, coho, pink, chum and chinook, Area 9, 1947-1983.[a]

Year	Sockeye	Coho	Pink	Chum	Chinook
1947	30,000	3,050	25,750	15,675	25
1948	84,250	7,000	12,175	37,500	1,150
1949	195,500	4,050	52,225	108,400	1,700
1950	456,500	10,600	47,325	55,200	1,900
1951	304,500	10,375	116,025	49,700	825
1952	582,500	17,350	44,750	27,700	1,575
1953	432,500	8,775	44,000	69,400	1,575
1954	103,800	2,500	5,950	21,925	N/A[b]
1955	130,400	4,125	9,300	3,602	1,500
1956	223,500	400	51,700	24,350	3,851
1957	212,900	500	7,600	26,250	1,575
1958	261,750	7,600	23,925	75,975	1,600
1959	370,500	5,050	19,250	6,650	900
1960	68,800	900	5,850	16,375	7,650
1961	161,850	14,600	21,450	17,125	1,350
1962	413,500	13,250	121,925	25,075	4,125
1963	857,500	7,100	16,775	44,575	8,125
1964	573,900	10,600	65,350	66,075	7,900
1965	140,150	7,050	18,875	925	5,125
1966	200,000	3,500	115,075	42,500	2,225
1967	435,250	950	100	14,925	1,775
1968	555,000	2,275	107,525	41,875	900
1969	226,000	7,525	525	10,325	1,625
1970	102,250	6,300	144,175	38,600	3,400
1971	215,900	6,855	34,205	11,855	1,741
1972	224,500	6,800	502,450	27,581	860
1973	985,000	4,900	9,765	24,425	1,418
1974	647,025	12,750	214,850	62,075	6,700
1975	480,002	565	87,150	16,600	3,280
1976	300,000	3,550	256,100	6,345	1,640
1977	191,600	4,680	47,600	9,790	2,225
1978	383,000	5,650	109,650	60,800	2,800
1979	290,025	5,550	49,350	18,550	2,150
1980	313,000	6,800	135,800	23,675	2,325
1981	753,075	6,335	93,050	12,650	3,175
1982	823,000	6,375	100,000	102,180	2,250
1983	636,502	10,300	124,260	34,966	3,320
Mean 1973-1982	516,573	5,716	-	33,709	2,796
Mean 1973-1981 (odd-year cycle)	-	-	57,383	-	-

[a]These escapements are presently being revised from historical records. Some changes have been made and more are expected. The above 10-year averages may differ from those published in the 1983 expectations.

[b]Not available.

was higher than the average of the previous five odd-year cycles but only half of the considered optimum for the area. The chum escapement of 34,966 was higher than the 10-year average of 37,709 during 1973 to 1982 but still well below the 75,000 optimum. The chinook escapement totalled 3,320 for all of Area 9 with only 1,750 reported for the Wannock River. These values are approximately one third of the required levels.

REVIEW, AREA 9

The 1983 fishery in Area 9 was disappointing,although low catches were anticipated for all runs except pink salmon. The pink return was very poor considering that it originated from an optimum escapement. The catch averages from the fisheries accurately reflected stock abundance and over 90% of the return was allowed onto the spawning grounds. The coho and chum runs were poor, as expected, with low incidental catches, and the majority of the fish reached the spawning grounds. The one-day sockeye fishery confirmed a below optimum return, and the management restrictions that allowed the majority of the fish to escape to the Owikeno Lake spawning grounds were appropriate.

AREA 10

1983 PRE-SEASON STOCK EXPECTATIONS

The 1983 stock expectations and fishing plans for Area 10 are described in detail in Appendix 5 and are reviewed briefly below.

Sockeye

The sockeye escapements to Smith Inlet have varied widely between 1950 and 1979 although the 10-year averages for each decade ranged between 65,000 and 75,000. The optimum escapement has been increased to 200,000 recently, resulting in a large increase in escapement since 1980. A Lake Fertilization Program is being conducted in Long Lake and the results appear very promising. A return well below optimum was anticipated for 1983.

Coho

Coho escapements have been stable, fluctuating around 2,000 over the last 30 years. There are no directed net fisheries on coho.

Pink (odd-year)

Pink odd-year escapements have varied widely, from a few hundred spawners in some years up to 65,000 in 1981. A strong return was expected from an optimum brood year escapement.

Chum

Chum escapements have shown an increasing trend since 1970, with escapements over 50,000 since 1980. No directed fishery was expected from the chum brood of 13,750.

Chinook

The Docee River is the only significant chinook stock in Area 10. This stock was near the optimum level of 2,000 during the 1950's but declined sharply to an average of 450 during the 1960's. In the last 10 years it has increased to an average of over 1,000 fish. There are no directed net fisheries on chinook in Area 10.

1983 PRE-SEASON FISHING PATTERN, AREA 10

A one-day fishery to assess pink stock strength was scheduled for July 31 with subsequent fisheries dependant on initial catches. Only the pink returns were expected to show harvestable strength. The sockeye expectations were poor; the 1979 brood year escapement was only 21,000 and although the 1978 escapement was at a moderate level of 75,000, the combined return was anticipated to be only 120,000. Chum returns were expected to be well below fishable levels.

1983 WEEKLY FISHING SUMMARY, AREA 10

Table 18 summarizes weekly in-season fishery management and its rationale. Table 19 presents Area 10 weekly commercial gillnet catches by species. Figure 5 shows Area 10 management units.

July 10-17

A management meeting was held as scheduled in Rivers Inlet on July 13. The Docee River fence count at this time totalled 59,000 sockeye (Table 20). Because of this strong escapement, a 24-hour fishery for gillnets only was scheduled for July 17 in M.U.'s 10-1, 10-2, 10-3, 10-4 and 10-7. Escapements continued to increase more rapidly than expected and a further announcement was made to open these same areas from noon July 16 to 1800 hours July 18. During this period, a seine boat tagging program on sockeye was being conducted in Smith Inlet. However, very poor catches prior to July 15 did not indicate a strong run (Table 21). Sockeye catch averages during the first day of the fishery were poor.

July 17-24

Sockeye escapement past the Docee River fence continued to increase (Table 20) prompting the decision to extend the fishery in M.U.'s 10-1, 10-3 and 10-4 until further notice. Management units 10-2 and 10-7 were closed due to the absence of gear. Management unit 10-6 (Wyclees Lagoon) was opened on July 19 until further notice in order to harvest those fish escaping past the outside fisheries and avoid the possibility of overescapement.

July 24-31

This was a clean-up fishery with M.U.'s 10-3, 10-4 and 10-6 open for gillnets only. Sockeye catches remained at good levels during the beginning of the week resulting in M.U.'s 10-3 and 10-4 remaining open until further notice. Management unit 10-6 (Wyclees Lagoon) was closed on July 26 at 1500 hours because of enforcement problems. The entire fishery was closed on July 30 because sockeye catches declined towards the end of the week, boats started leaving for other areas and the sockeye escapement goal was not exceeded.

July 31-August 7

A pink fishery for gillnets only was opened as scheduled in M.U.'s 10-1, 10-3 and 10-4 with no mesh restrictions. On the first day of the opening most fishermen were still targeting on sockeye rather than pink salmon. Based on the good sockeye catches, fishing in M.U.'s 10-3 and 10-4 was extended by 24 hours. Management unit 10-1 was closed because of pink conservation concerns. All catches dropped off by the second day and Area 10 was closed.

Table 18. Weekly net fishing season: pre-season plans, in-season management and rationale for management, Area 10, 1983.[a]

Date	Pre-season Fishing Plans	In-season Management	Rationale for In-season Management
July 10 - 17	Closed.	Opened to gillnets 1 day.	- strong sockeye escapement indicated by Docee River fence count
July 17 - 24	Closed.	Opened to gillnets 7 days.	- continued increase in sockeye escapements past Docee River fence - Wyclees Lagoon opened to fishery to avoid overescapement
July 24 - 31	Closed.	Opened to gillnets 6 days.	- fishery extended due to good sockeye catches - fishery closed because sockeye catches declined, boats started leaving for other areas and sockeye escapement goal apparently was not exceeded
July 31 - Aug. 7	Open gillnets 1 day.	Opened to gillnets 1 day; extended 1 day.	- fishery opened to target on pink salmon - fishery extended due to good sockeye catches - fishery closed due to declining catches
Aug. 7 - 14	Further openings dependant on results from the previous week's fishery.	Opened to gillnets 1 day; extended 1 day.	- fishery opened with a mesh restriction to target on pink salmon - fishery extended to encourage boats to enter and provide assessment of pink stock strength - fishery closed due to apparent poor return of pink stocks
Aug. 14 - Sep. 11	As above.	Closed.	- fishery remained closed to conserve pink stocks
Sep. 11 - 18	As above.	Opened to gillnets 1 day.	- fishery opened with a mesh restriction to target on chum salmon - fishery closed due to low chum catches
Sep. 18 - 25	As above.	Opened to gillnets 1 day.	- fishery opened with a mesh restriction to target on chum salmon - fishery closed due to low chum catches - fishery terminated for the season

[a]For details see text and Appendix 5.

Table 19. Daily gillnet catches by species and the number of gear, Area 10, 1983.

Date	No. Gear	Sockeye	Coho	Pink	Chum	Chinook
July 16/17	343	22715	383	407	143	135
Week Total	-	22715	383	407	143	135
July 17/18	195	12293	318	397	717	215
18/19	233	15534	496	423	385	75
19/20	253	15349	332	243	227	127
20/21	253	12912	237	201	189	202
21/22	121-93[a]	7383	86	23	13	96
22/23	82-67[a]	8158	98	21	16	40
23/24	67-28[a]	3985	31	19	11	14
Week Total	-	75614	1598	1327	1558	769
July 24/25	28-51[a]	4134	66	32	19	5
25/26	62-50[a]	2976	89	83	38	40
26/27	54-31[a]	2178	88	24	78	18
27/28	43-26[a]	1088	32	1	13	6
28/29	26-19[a]	910	28	12	44	12
29/30	21	389	10	12	50	7
Week Total	-	11675	313	164	242	88
July 31/Aug. 1	9-15[a]	1657	130	91	281	40
Aug. 1/2	8	103	5	1	11	0
Week Total	-	1760	135	92	293	40
Aug. 7/8	0	0	0	0	0	0
8/9	2	10	3	6	6	0
Week Total	-	10	3	6	6	0
Aug. 14-Sep. 11	C L O S E D					
Sep. 11/12	56	0	181	84	1223	12
Week Total	-	0	181	84	1223	12
Sep. 18/19	14-11[a]	0	32	9	190	11
Week Total	-	0	32	9	190	11
Total for Year	-	111774	2645	2089	3655	1055

[a]The two consecutive numbers indicate number of boats at the start and end of that fishing interval respectively.

Table 20. Daily fence counts for sockeye, Docee River, 1983.

Date	Count	Cum. count
July 1		
2	37	37
3	24	61
4	14	75
5	10	85
6	14	99
7	10	109
8	35	144
9	18195	18339
10	15014	33353
11	9639	42992
12	8924	51916
13	21927	73843
14	19490	93333
15	26281	119614
16	28885	148499
17	15303	163802
18	13598	177400
19	6362	183762
20	732	184494
21	52	184546
22	244	184790
23	249	185039
24	389	185428
25	414	185842
26	59	185901
27	169	186070
28	620	186690
29	1329	188019
30	2892	190911
31	992	191903
August 1	998	192891
2	536	193427
3	613	194040
4	920	194960
5	1032	195992
6	1159	197151
7		

Table 21. Seine "Test Set" results from Smith Inlet tagging program, 1983.

Date	Location	No. Sets	Sockeye catch/set
July 6	Brown Is. Brodie Is.	8	1
7	Ripon Pt.	6	64
8	Mouth Wyclees Lagoon	1	800
13	Brown Is. Brodie Is.	10	12
14	Ripon Pt.	13	34
15	Mouth Wyclees Lagoon	2	4000

August 7-14

A 24-hour pink fishery for gillnets only was opened in M.U.'s 10-1 and 10-3 with a mesh restriction of not more than 133 mm. No boats arrived on the first day of the fishery, presumably due to poor pink prices and low pink catch expectations. Fishing in the open areas was extended by 24 hours in anticipation that some boats would arrive and provide an assessment of pink stock strength. On the second day two boats arrived; however, pink catch averages indicated an extremely poor pink return and Area 10 was closed.

August 14-September 11

Area 10 was closed to conserve pink stocks.

September 11-18

A 24-hour chum fishery for gillnets only was opened in M.U.'s 10-1 and 10-3 with a mesh restriction of not less than 100 mm. Chum catch averages were low and the fishery was closed after one day.

September 18-25

A second 24-hour chum fishery for gillnets only was opened in M.U.'s 10-1 and 10-3 with a minimum mesh restriction of not less than 100 mm. Chum catch averages remained low indicating a below normal chum return. After one day Area 10 was closed for the balance of the year.

Table 22 shows the annual commercial salmon net catches by species and gear in Area 6 for the period 1951 to 1983. Compared to the preceeding five-year catch averages, the 1983 net catches were low for all species. In particular, coho, pink, chum and chinook catches were among the lowest on record.

ESCAPEMENTS, AREA 10

The annual Area 10 salmon escapements by species for the period 1947 to 1983 are presented in Table 23. In 1983, 199,653 Long Lake sockeye were counted past the Docee River counting fence, providing an optimum escapement for the third consecutive year. The two previous spawnings which were enhanced under the Lake Fertilization Program, produced very high smolt outputs and the ensuing escapements appear to reflect the increased juvenile production. The coho escapement of 2,170 was double the 10-year average during 1973 to 1982 but still less than half the desired level. The pink escapement of 45,271 was good but disappointing, considering that it represented the total return from 65,037 spawners in 1981. The chum escapement of 44,000 was a good return from a brood year escapement of 13,750 but was below the optimum of 55,000. The chinook escapement estimate of 1,050 was similar to the 10-year average during 1973 to 1982 but was only half the desired level.

REVIEW, AREA 10

The Area 10 sockeye harvest in 1983 was much better than expected, but the anticipated strong pink return did not materialize. The Departmental escapement objective for sockeye was achieved but not without some problems. The run was much stronger than expected, and an additional fishery in Wyclees Lagoon had to be opened to avoid the possibility of overescapement. In 1984, a one-day fishery is scheduled to test the sockeye run strength. Since the Area 10 sockeye stock expectations for 1985 and future years indicate

Table 22. Annual commercial salmon net catches by species and gear, Area 10, 1951 - 1983.[4]

	SOCKEYE				COHO				PINK				CHUM				CHINOOK			
Year	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total	Gillnet	Seine	Troll	Total
1951	438915	180	0	439095	7835	2690	352	10877	4008	5169	0	9177	8420	5625	0	14045	1428	15	2	1445
1952	342185	58	0	342243	7415	3238	928	11581	14864	10181	5	25050	3367	7524	0	10891	1996	7	4	2007
1953	367048	22	0	367070	5032	225	0	5257	11636	3846	0	15482	21861	6782	0	28643	1838	28	257	2123
1954	190760	0	0	190760	7232	22	1267	8521	9480	6	3	9489	23051	320	6	23377	2206	0	356	2562
1955	325478	0	0	325478	9982	0	873	10855	22901	0	80	22981	27484	22	0	27506	4125	0	97	4222
1956	442256	0	0	442256	11839	4	327	12170	25230	13	11	25254	12771	956	0	13727	4179	0	134	4313
1957	63647	0	0	63647	7732	0	2503	10235	11867	0	162	12029	29440	0	4	29444	821	0	204	1025
1958	323702	0	0	223702	5230	0	6539	11769	54780	0	82	54862	12027	0	0	12027	2908	0	869	3777
1959	113329	0	0	113329	4986	0	8802	13788	8151	0	4086	12237	10639	0	9	10648	2006	0	1786	3792
1960	219341	0	0	219341	15000	96	5026	20122	28685	319	655	29659	19839	4278	12	24129	5504	2	1246	6752
1961	213277	0	0	213277	40603	430	2711	43744	38517	638	454	39609	12123	1070	4	13197	5248	7	517	5772
1962	252032	26	15	252073	18404	532	5677	24613	138294	4762	1225	144281	18120	3051	5	21176	2526	22	1260	3808
1963	174995	1	19	175015	10280	84	8286	18650	3591	14	2553	6158	20912	1354	25	22291	3389	2	977	4368
1964	236429	3	5	236437	25705	1013	972	27690	60374	544	136	61054	32215	2737	1	34953	5447	47	1936	7430
1965	289821	0	4	289825	204560	10	3524	208094	27562	5	694	28261	9404	.1	45	9450	19637	1	2080	21718
1966	172091	0	176	172267	89838	15	32474	122327	37719	0	6741	44460	7988	355	29	8372	7350	54	4456	11860
1967	286000	0	11293	297293	204325	0	54483	258808	110160	0	62497	172657	16370	0	323	16693	17831	0	9278	27109
1968	454092	14	17883	471989	81854	272	35251	117377	73479	9917	82401	165797	48751	1053	246	50050	7803	28	6336	14167
1969	166956	42	1929	168927	29858	116	13457	43431	5366	278	567	6211	25761	364	44	26169	6380	45	5006	11431
1970	82632	45	199	82876	13970	9	20552	34531	57511	42	7974	65527	49870	48	409	50327	2146	1	4347	6494
1971	142955	0	677	143632	4974	0	6285	11259	3315	0	292	3607	8727	0	15	8742	2283	0	1804	4087
1972	59391	5	105	59502	12330	732	12611	25673	8422	1997	4495	14914	31454	2271	56	33781	2426	145	7134	9705
1973	294692	1	126	294819	13098	177	9242	22517	6036	366	2669	9071	41874	1446	30	43350	2631	65	4056	6752
1974	346266	1439	897	348602	6570	163	5893	12626	20223	2957	9238	32418	13708	92	24	13824	3776	169	5500	9445
1975	52423	250	41	52714	6418	5	6492	12915	2760	2	378	3140	5563	6	35	5604	5290	14	4487	9791
1976	92165	24	992	93181	14836	14	48155	63005	10678	1	35693	46372	3599	0	69	3668	3241	36	8638	11915
1977	54725	103	697	55525	9973	367	5832	16172	17565	330	5174	23069	12722	1014	127	13863	1964	28	3196	5188
1978	233307	215	749	234271	7739	15	14860	22614	15718	754	1889	18361	38445	12	159	38616	3831	6	2438	6275
1979	11022	0	371	11393	5155	0	11414	16569	6788	0	6667	13455	5491	0	238	5729	3386	0	4494	7880
1980	2318	0	104	2422	2460	0	6521	8981	740	0	1539	2279	19574	0	93	19667	773	0	5483	6256
1981	154316	39	786	155141	1631	1	12344	13976	23145	82	29085	52312	10988	2	211	11201	766	0	3301	4067
1982	295789	0	3395	299184	6612	0	13345	19957	3415	0	711	4126	20100	0	581	20681	4416	0	2849	7265
1983	111774	0	5502	117276	2645	0	4693	7338	2089	0	3153	5242	3655	0	8463	12118	1055	0	10163	11218
Mean 1978-82	139360	51	1081	140482	4719	3	11697	16419	9961	167	7978	18107	18920	3	256	19179	2634	1	3713	6349

[4]From B.C. Catch Statistics; 1952, 1953 and 1955 catches of sockeye, coho, pink and chum from Area Histories.

Table 23. Annual spawning escapements for sockeye, coho, pink, chum and chinook, Area 10, 1947-1983.[a]

Year	Sockeye	Coho	Pink	Chum	Chinook
1947	N/A[b]	475	11,000	7,025	N/A
1948	5,000	825	7,900	12,500	750
1949	37,500	4,850	35,000	16,500	N/A
1950	105,000	3,000	35,000	16,500	N/A
1951	82,500	2,900	3,500	6,500	400
1952	67,500	6,550	35,000	14,500	750
1953	70,000	775	15,025	18,500	3,500
1954	85,000	700	6,000	20,000	3,000
1955	110,000	1,150	22,500	4,650	1,500
1956	90,000	200	35,025	14,000	1,700
1957	22,575	675	7,500	12,500	3,500
1958	22,575	2,000	3,500	40,000	1,500
1959	50,075	2,200	15,025	12,500	750
1960	18,525	675	3,500	12,500	200
1961	22,525	5,150	7,500	5,750	1,500
1962	110,075	6,425	35,000	44,000	400
1963	103,025	2,200	7,500	15,750	400
1964	50,200	3,675	1,500	15,400	400
1965	11,000	4,325	7,500	1,600	50
1966	50,000	475	7,500	3,925	775
1967	50,000	125	3,500	15,225	400
1968	135,200	2,075	15,025	11,075	200
1969	110,200	1,825	400	2,650	75
1970	50,000	475	15,000	22,500	200
1971	110,000	1,200	4,000	25,000	700
1972	51,500	1,600	2,525	43,250	800
1973	135,000	1,450	5,030	71,500	570
1974	80,000	2,450	9,000	28,500	1,800
1975	60,000	1,000	1,300	7,500	960
1976	47,000	75	22,100	8,500	1,000
1977	105,000	1,200	20,100	42,500	1,050
1978	75,000	800	19,000	36,000	2,100
1979	21,025	1,450	30,250	13,750	500
1980	128,000	1,500	2,500	57,000	1,200
1981	214,000	856	65,037	65,500	N/A
1982	214,000	2,200	9,031	70,000	1,500
1983	199,653	2,170	45,271	44,000	1,050
Mean 1973-1982	107,903	1,298	-	40,075	1,187
Mean 1973-1981 (odd-year cycle)	-	-	24,343	-	-

[a]These escapements are presently being revised from historical records. Some changes have been made and more are expected. The above 10-year averages may differ from those published in the 1983 expectations.

[b]Not available.

a harvestable surplus, the fisheries will be scheduled to begin earlier, in late June or early July. This should result in an orderly fishery and achieve the escapement goal.

The pink fishery was very disappointing with the expected good run never materializing. Fishing effort on pink salmon was minimal and the catches extremely poor. Chum returns, although better than expected, were below fishable levels as indicated by the commercial catches. Coho and chinook catches were small and only incidental during other fisheries.

ACKNOWLEDGEMENTS

The authors wish to thank Gord Curry, John Greenlee, John MacDonald and Gord McEachen for critically reviewing the manuscript; Mrs. F. Alladina for typing; and Alice Fedorenko for editing and preparing the draft for publication.

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Appendix 1. Salmon expectations and fishing plans, Area 6, 1983.[a]

SPECIES	CYCLE YEAR CATCH		CYCLE YEAR ESCAPEMENT		1983 ESCAPEMENT EXPECTED	1983 ESCAPEMENT OPTIMUM	EXPECTATIONS
Sockeye	(1978)	57,000		12,900	20,000	35,000	Returns of local stocks will be well below average. Commercial catch will depend on the strength of passing stocks.
	(1979)	86,800		14,500			
	10 year average	64,800	10 year average	20,850			
Coho	(1980)*	107,600		35,900	50,000	85,000	Return of local stocks will be below average. Commercial catch will be largely dependent upon the strength of passing stocks.
	10 year average	86,100	10 year average	44,700			
Pink	(1981)	1,263,200		360,000	500,000	1,000,000	Returns are expected to be better than the odd-year average and should support a limited fishery.
	5 cycle average	646,700	5 cycle average	360,000			
Chum	(1979)	89,000		88,000	175,000	350,000	Early run stocks are depressed and require conservation. Better than expected pink returns in 1981 (1979 brood) give rise to expectations that 1983 chum returns may be better than dictated by weak 1979 escapement; some stocks may support a small fishery.
	10 year average	148,700	10 year average	146,000			
Chinook	(1978)**	39,900		6,000	10,000	25,000	Returns of local stocks will be very light. Commercial catch will depend largely on passing stocks.
	(1979)***	28,500		6,400			
	10 year average	31,300	10 year average	8,400			

*includes 26,100 troll
**includes 17,900 troll
***includes 11,800 troll

PROPOSED FISHING PATTERN

NOTE: In the event that chum runs are extremely light and pink runs are of such strength that a problem of over-fishing chum while harvesting pink arises, it may be necessary to implement additional conservation measures for chum.

EFFECTIVE DATE	ACTION
All Season	Gardner Canal, Douglas Channel, Klekane Inlet, Aaltanhash Inlet, Khutz Inlet, Green Inlet, Racey Inlet, Chapple Inlet and Loredo Inlet will be closed.
April 15 - May 14	Trolling permitted 7 days per week in sub-areas 6-5, 6-6, 6-7, 6-9, 6-10, 6-11, 6-13, 6-14, 6-15, 6-16, 6-17, 6-18 and 6-19.
May 15 - July 10	Trolling permitted 7 days per week in sub-areas 6-9, 6-11 and 6-13.
July 10 - UFN[b]	Open to net fishing 1 day per week in sub-areas 6-5, 6-6, 6-9, 6-10 and 6-26. No mesh restrictions. Trolling permitted 7 days per week in sub-areas 6-9, 6-11 and 6-13 but restricted to net times in sub-areas 6-5, 6-6, 6-7, 6-10, 6-14, 6-16, 6-17, 6-18, and 6-26.
July 24 - UFN	Sub-area 6-7 will also open to net fishing 1 day per week (i.e. open in 6-5, 6-6, 6-7, 6-9, 6-10 and 6-26).
July 31 - UFN	Sub-areas 6-13, 6-14, 6-16, 6-17 and 6-18 open to net fishing 1 day per week in addition to other previously opened areas (i.e. open in 6-5, 6-6, 6-7, 6-9, 6-10, 6-13, 6-14, 6-16, 6-17, 6-18 and 6-26).
August 21 - UFN	Sub-area 6-26 closed to all commercial salmon fishing.

[a]Source: 1983 Pacific Region Commercial Fishing Guide.
[b]Until further notice.

Appendix 2. Salmon expectations and fishing plans, Area 7, 1983.

SPECIES	CYCLE YEAR CATCH		CYCLE YEAR ESCAPEMENT		1983 ESCAPEMENT EXPECTED	1983 ESCAPEMENT OPTIMUM	EXPECTATIONS
Sockeye	(1978)	34,000		8,000	10,000	20,000	Return of local stocks will be below average and may not meet local food fishing requirements. Commercial catch is comprised largely of passing stocks.
	(1979)	76,500					
	10 year average	60,500	10 year average	7,500			
Coho	(1980)	72,150*		5,000	10,000	20,000	Returns of local stocks will be below average. Total commercial catch is dependent upon the strength of passing stocks.
	10 year average	129,400**	10 year average	7,250			
Pink	(1981)	748,600		300,550	350,000	350,000	Returns are expected to be average to slightly above average.
	5 cycle average	584,100	5 cycle average	263,800			
Chum	(1979)	213,300		169,700	200,000	350,000	An average to below average return is expected and catches will be incidental to pink harvest.
	10 year average	280,400	10 year average	200,500			

*includes 39,250 troll
**includes 69,800 troll

PROPOSED FISHING PATTERN

EFFECTIVE DATE	ACTION
April 15 - June 12	Trolling permitted 7 days per week in sub-areas 7-1, 7-2, 7-3, 7-4, 7-5, 7-12, 7-19, 7-20, 7-25, 7-26, 7-27, 7-28 and 7-31.
June 13 - September 30	Trolling permitted 7 days per week in sub-areas 7-1, 7-2, 7-3, 7-19, 7-20, 7-25, 7-26, 7-27, 7-28 and 7-31. Elsewhere trolling restricted to net fishing times and areas.
July 10 - July 30	Net fishing (no mesh restriction) permitted 1 day per week in sub-areas 7-3, 7-4 and 7-12.
July 31 - UFN[b]	Net fishing permitted 1 day per week in sub-areas 7-2, 7-3, 7-4, 7-5 and 7-12.

[a]Source: 1983 Pacific Region Commercial Fishing Guide.
[b]Until further notice.

Appendix 3. Salmon expectations and fishing plans, Area 8, 1983[a].

SPECIES	CYCLE YEAR CATCH		CYCLE YEAR ESCAPEMENT	1983 ESCAPEMENT EXPECTED	1983 ESCAPEMENT OPTIMUM	EXPECTATIONS
Sockeye	(1978)	50,800		33,000	70,000	100,000	Below average return expected due to low escapement in both brood years. Special conservation measures may be required depending upon fleet size.
	(1979)	220,100		44,600		
	10 year average	146,000	10 year average	69,000		
Coho	(1980)	21,200		19,600	50,000	75,000	Less than optimum return expected. No directed fishery and only an incidental catch is anticipated.
	10 year average	39,400	10 year average	52,000		
Pink	(1981)	1,600,000		740,000	1,500,000	2,000,000	Other than the Atnarko, all systems received generally good escapements. Special measures (149 mm minimum gillnet mesh) may be required in North and South Bentinck Arms to protect Atnarko stocks. Koeye River had a good escapement and should provide a limited fishery.
	5 cycle average	500,000	5 cycle average	522,000		
Chum	(1979)	209,000		98,000	150,000	200,000	Brood year escapement was poor and escapements have been declining over the last 10 years. The 1982 returns were strong in 3 year olds and may indicate a better than expected return of 4 year olds. The Snootli Creek Hatchery is expecting a harvestable surplus of 40,000 to be taken in a terminal fishery in North Bentinck Arm to avoid over-exploiting wild stocks.
	10 year average	213,000	10 year average	135,600		
Chinook	(1978)	11,000*		24,000	20,000	35,000	Less than optimum return expected; this combined with a general decline in stocks coastwide will necessitate close monitoring of local stocks.
	(1979)	14,000**		19,600		
	10 year average	12,000***	10 year average	20,000		

*5,500 up to June 31
**5,250 up to June 31
***5,700 up to June 31

PROPOSED FISHING PATTERN

NOTE:

- Gillnet opportunities before June 3 are minimal. Fishing times will not be decided before further consultation with fishermen's organizations on how to achieve coastwide chinook conservation commitments of a Canada/U.S. salmon agreement.
- An early closure of Fisher and Dean Channels (sub-areas 8-5 and 8-8) is possible for conservation of chum.
- Possible gillnet mesh restriction in sub-areas 8-11 and 8-12 to protect Atnarko River pink.
- Possible additional fishing times in sub-area 8-11 to harvest Snootli Hatchery chum (quality will not be "silver bright").

EFFECTIVE DATE	ACTION
April 15 - September 30	Trolling permitted 7 days per week in sub-area 8-1; elsewhere, trolling restricted to net fishing times and areas.
July 3 - UFN[b]	Gillnet fishing permitted 1 day per week in sub-areas 8-3, 8-4, 8-5, 8-8, 8-10, 8-11, 8-12 and 8-15. No mesh restrictions. Lower portion of Burke and Dean Channels (8-7 and 8-13) closed to all commercial salmon fishing.
July 10 - UFN	Open to seines for 1 day per week in sub-areas 8-3, 8-4 and 8-5. The opening date for net fishing in sub-area 8-2 will be decided "in season" and is dependent on conservation requirements of Rivers Inlet sockeye and coastwide chinook stocks.

[a] Source: 1983 Pacific Region Commercial Fishing Guide.
[b] Until further notice.

Appendix 4. Salmon expectations and fishing plans, Area 9, 1983.

SPECIES	CYCLE YEAR CATCH		CYCLE YEAR ESCAPEMENT		1983 ESCAPEMENT EXPECTED	1983 ESCAPEMENT OPTIMUM	EXPECTATIONS
Sockeye	(1978)	579,000		375,000	800,000	1,000,000	Less than optimum return expected. No directed fishery anticipated.
	(1979)	28,500		290,000			
	10 year average	464,000	10 year average	373,000			
Coho	(1980)	21,500*		6,800	10,000	40,000	High egg mortality likely, due to 1980 flood. Below average return expected. No directed fishery anticipated.
	10 year average	39,400**	10 year average	5,800			
Pink	(1981)	103,000		99,800	225,000	225,000	A slightly above average return expected and a limited fishery is anticipated.
	5 cycle average	96,000	5 cycle average	60,000			
Chum	(1979)	9,600		18,500	30,000	75,000	Below average return expected due to low brood year. No fishery anticipated.
	10 year average	38,000	10 year average	27,700			
Chinook	(1978)	15,000		2,800	4,500	7,500	Less than optimum return expected. No directed fishery anticipated.
	(1979)	8,000		2,200			
	10 year average	16,000	10 year average	2,600			

*Includes 20,000 troll
**Includes 14,000 troll

PROPOSED FISHING PATTERN

NOTE: Although area 9 no longer encompasses the waters southward of Cranston Point to Dugout Rock Light to Clark Point on Calvert Island, as they are included in area 10, there are no changes in troll area closures from 1982.

EFFECTIVE DATE	ACTION
April 15 - UFN[b]	Trolling restricted to net fishing times and areas only.
July 31	Open for gillnets for 1 day in sub-area 9-4 to harvest pink. The possibility of opening other areas will be discussed at weekly management meetings in Dawsons Landing. Possible net restrictions for protection of chum. Further net fishing will be considered following this fishery depending on stock abundance.

[a] Source: 1983 Pacific Region Commercial Fishing Guide.

[b] Until further notice.

Appendix 5. Salmon expectations and fishing plans, Area 10, 1983.

SPECIES	CYCLE YEAR CATCH		CYCLE YEAR ESCAPEMENT		1983 ESCAPEMENT EXPECTED	1983 ESCAPEMENT OPTIMUM	EXPECTATIONS
Sockeye	(1978)	234,000		78,000	120,000	200,000	A less than optimum return is expected. No fishery is anticipated.
	(1979)	11,600		21,000			
	10 year average	141,000	10 year average	73,500			
Coho	(1980)	9,000*		1,500	3,500	5,000	A less than optimum return expected. No directed fishery anticipated.
	10 year average	21,200**	10 year average	1,200			
Pink	(1981)	23,200		65,000	65,000	65,000	Above average return expected and a gillnet fishery is anticipated. The optimum escapement is increased from previous levels and reflects the available habitat and recent returns. These suggest that previous optimum escapements were underestimated.
	5 cycle average	14,400	5 cycle average	24,000			
Chum	(1979)	5,700		13,800	30,000	55,000	A less than optimum return expected; no fishery anticipated
	10 year average	21,800	10 year average	29,900			
Chinook	(1978)	6,300		2,100	2,000	2,000	An average return is expected. No directed fishery anticipated.
	(1979)	7,900		500			
	10 year average	10,000	10 year average	950			

*Includes 6,521 troll
**Includes 12,700 troll

PROPOSED FISHING PATTERN

EFFECTIVE DATE	ACTION
April 15 - July 2	Open to trolling 7 days per week seaward of Extended Point to Ann Island to Table Island to Milthorp Point. Inside this line, trolling open during net times and places only.
July 3 - July 24	Open to trolling 7 days per week seaward of Clark Point on Calvert Island to Secretary Point on Hope Island. Inside this line, trolling open during net times and places only.
July 25 - UFN[b]	Open to trolling 7 days per week seaward of Extended Point to Ann Island to Table Island to Milthorp Point. Trolling inside this line during net times and places only.
July 31	Open to gillnets for 1 day to harvest pink; seaward of Ripon Point to Oblong Island line out to the Extended Point to Ann Island to Table Island to Milthorp Point line. Possible mesh restriction for protection of Nekite and Walkum River chum. Further net fishing will be considered following this fishery.

[a] Source: 1983 Pacific Region Commercial Fishing Guide.
[b] Until further notice.